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Analysis of the 1980 National Survey of Fishing, Hunting, and  
Wildlife-Associated Recreation

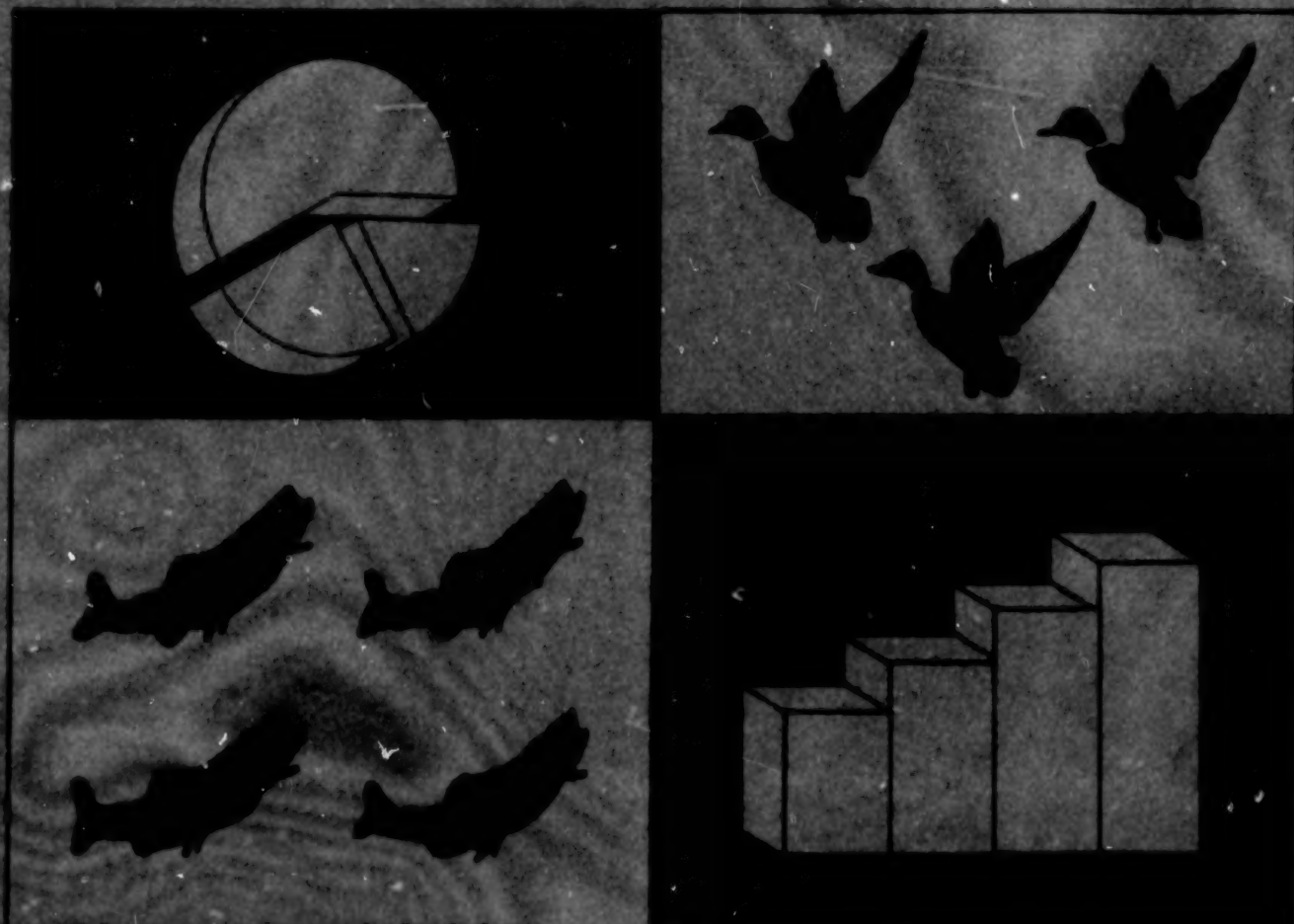
Report No. 2

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Dynamic Aspects of the ORIGINAL  
Sport Hunting Population

March 1984



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**ANALYSIS OF THE 1980 NATIONAL SURVEY OF FISHING,  
HUNTING, AND WILDLIFE-ASSOCIATED RECREATION**

**Report No.**

1. **Identifying and Describing Segments of Consumptive Users of Fish and Wildlife in the United States**
  - Volumes I-VII correspond to U.S. Fish and Wildlife Service Regions I-VII. They consist of selected sections of the larger, complete report. Each volume consists of a national summary, analysis of a given Region, and a selected State within that region.
2. **Dynamic Aspects of the American Sport Hunting Population**
3. **An Analysis of the Overlap in Participation of Consumptive and Nonconsumptive Wildlife Users**
4. **Recreational Use of Public vs. Privately Owned Lands for Hunting**

This series of reports was prepared to supplement the data reported in The 1980 National Survey of Fishing, Hunting, and Wildlife-Associated Recreation. Topics for analysis were suggested by the International Association of Fish and Wildlife Agencies. The views and conclusions expressed here are the authors' and not necessarily those of the U.S. Fish and Wildlife Service.

Dynamic Aspects of the American Sport Hunting Population:  
An Analysis Based on the 1980 National Survey of Fishing,  
Hunting, and Wildlife-Associated Recreation

A research report prepared for the U.S. Fish and Wildlife Service

James E. Applegate  
Professor of Wildlife Biology  
Rutgers University  
New Brunswick, New Jersey 08903

James R. Lyons  
Director of Resource Policy  
Society of American Foresters  
Bethesda, Maryland 21032

Peter J. Plage  
South Jersey Environmental Associates, Inc.  
22 Pomona Avenue  
Port Republic, New Jersey 08241

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Dynamic Aspects of the American Sport Hunting Population: An Analysis Based on the 1980 National Survey of Fishing, Hunting, and Wildlife-Associated Recreation

INTRODUCTION

Problem Statement

Despite a dramatic increase during the last two decades in the number of studies of hunters, relatively few inquiries have focused on dynamic aspects of hunter populations. Since the majority of monies dedicated to wildlife management in the United States is derived from hunting license fees and from federal funds allocated to the states according to the number of hunters in each (Pittman-Robertson funds), wildlife management agencies have a vital interest in assessing future changes in the number of hunters in their respective states. In light of the budgetary implications of fluctuations in hunter populations, accurate projections of hunter population levels are critical to setting management priorities and developing plans for managing both game species and nongame and endangered wildlife.

Viewing hunter populations within a dynamic framework of individual recruitment, participation, and desertion can provide important insights into present and future hunter population trends. However, a significant shortcoming in existing data on hunter population dynamics exists. All existing studies have centered on the population of a single state. Studies by Applegate (1977), Klessig (1970), and Langenau and Mellon (1980), for example, have yielded important information regarding demographic, socioeconomic, and cultural factors that can influence hunter initiation, participation, and desertion in New Jersey, Wisconsin, and Michigan, respectively. Yet, we have no way of knowing what factors account for differences in the findings of these studies, nor do we know how data from these individual states can be extrapolated to other states or regions.

The 1980 National Survey of Fishing, Hunting, and Wildlife-Related Recreation provided the first source of nationwide, comparable data for hunting recruitment, participation and desertion in each of the 50 states. As a result, these data provide the opportunity to overcome the limited geographic scope of previous studies and to evaluate factors that affect initiation into and desertion from hunting in all of the states.

#### Objectives

Data from the 1980 National Survey were used to examine state and regional differences in patterns of recruitment and desertion from hunting. This analysis was intended to identify key socioeconomic and demographic variables which could be used as indicators to monitor future hunting participation trends. In addition, the relationship between certain management variables (e.g., quantity of huntable lands and game animals stocked) and hunting recruitment and desertion was examined to assess the potential impacts of changes in management decisions on future hunter population levels. Following the development of models to predict recruitment and desertion rates, an attempt was made to generate hunter life tables for states and groups of states with similar characteristics. These life tables describe age-specific desertion rates and may prove useful in understanding the dynamic nature of hunter populations in the United States. Finally, the 1980 National Survey data were used to describe national levels, and state by state variation, of other parameters of hunter population dynamics, including age structure of active and newly recruited hunters, and patterns of discontinuous hunting activity.

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## LITERATURE REVIEW

### Hunter Population Dynamics

Though a large number of studies have described the characteristics, attitudes, and behaviors of hunters (See reviews by Schole 1973 and Hendee and Potter 1976), few have focused on the factors related to initiation and desertion in the hunter ranks.

A 1977 study by Applegate was the first comprehensive look at the extent and nature of turnover in the hunter population due to individuals entering and leaving the sport. Information gathered from a survey of New Jersey residents provided data for individuals who had hunted at some time in their life. These data were used to determine the distribution of the ages of recruitment and desertion for the New Jersey hunter population. A life table was then constructed to evaluate age-related desertion rates within the hunter population. The findings of this analysis will be discussed in greater detail below.

### Recruitment

Initiation into hunting most often occurs before the age of twenty and is generally associated with a rural upbringing and familial interest in the sport. Schole (1973), in reviewing existing literature, concluded that a hunter's first experience usually occurs before the age of 20, through the influence of a father or some other male adult in the family. Studies by Bevins, et al. (1968), Davis (1967), Klessig and Hale (1972), Langenau and Mellon (1977), and Peterle (1961) support this general conclusion.

Though Applegate's study of New Jersey hunters also indicated that a majority of first time hunters were initiated into the sport during their teens, the percentage of hunters recruited before age twenty was lower than reported in all other studies, except that of Davis (1967) for Arizona. Comparison to

the findings of Langenau and Mellon (1980) for young hunters in Michigan is not possible, since their study was not designed to describe the age structure of new hunters, but rather to characterize young hunters, 12-18 years of age. Bouchard and Lerg (1977) concluded that two periods of recruitment into the Michigan hunting population predominate; one at ages 17-18 and a later period during the mid 20's. They hypothesized that two different factors might be affecting these groups. At age 17-18, an older family member might have the greater influence, while peers probably had a stronger influence on recruiting individuals at ages 24-26.

Age of initiation, as discussed by Applegate (1977), may be a key to the age at which hunters later give up the sport. He indicated that those who began hunting earlier tended to remain longer. Also, those who began hunting with older companions tended to remain among active hunters. Applegate (1982) recently reported an increase in the proportion of New Jersey hunters that are being initiated into the sport later in life (after age 20). He attributed this to the high population density of the state, a phenomenon previously reported by Klessig and Hale (1972) and Langenau and Mellon (1980).

In their study of young Michigan hunters, Langenau and Mellon (1980) reported that rural hunters began hunting at earlier ages and were younger than those from urban areas. They hypothesized that competing recreational activities in urban areas would have a greater influence on the future activities of urban hunters than game density or hunting pressure. High turnover and inconsistent participation were characteristic of hunters from urban areas in their study.

### Desertion

A limited number of studies of hunter desertion - leaving the sport - have been conducted. Of these, a number of socio-demographic and psychological factors were reported to be associated with hunter desertion.

Klessig (1970) reported that hunters who gave up the sport tended to be those who started hunting later in life and were more likely to come from urban rather than rural areas. He attributed higher desertion among urbanites to their relative inaccessibility to hunting areas. Individuals who had fewer friends that hunted were also less likely to remain active.

Bouchard and Lerg (1977) reported that a decrease in the rate of hunting was evident in the 43 to 46 year age group for all license types surveyed in Michigan. They attributed this to the break-up of family hunting groups due to the desertion from hunting of a son or daughter. This hypothesis suggests that social aspects of hunting, for father and son in particular, may be essential to keeping the 40-45 year old hunter an active participant.

Applegate (1977) identified six factors related to desertion from hunting. These included (1) age- percentage of active hunters decreased with increasing age; (2) sex- more men remaining active than women; (3) occupation - a higher proportion of blue collar workers remaining active; (4) income - lower income groups having more active hunters; (5) age of initiation - those who began hunting earlier remained longer; and (6) the age of hunting companions during initiation - a higher proportion of those who begin hunting with older companions remained active hunters. Factors not significantly related to desertion from hunting were population density of the respondent's home town and education.

There appears to be a strong relationship between early initiation into hunting and the extent and longevity of individual participation. Peterle (1967) indicated that those who began hunting later in life were likely to

hunt less. Sendak and Bond (1970) reported that those adults with lowest participation rates also had low rates of childhood hunting experience.

Early initiation is apparently closely linked to rural living during childhood and adolescence. Gilbert (1977) reported that only 15 percent of Vermont hunters were under 25 years of age. He attributed this to a decreased interest in hunting among a younger generation who were less likely to be exposed to rural life. More than 90 percent of all resident and non-resident hunters surveyed began hunting during adolescence. More than 80 percent lived on farms or in rural areas during that time. Gilbert concluded, "an interest in hunting is developed during adolescence and ... rural living is an important factor in stimulating this interest."

Other factors associated with desertion from hunting were reported by several authors. Kellert (1980), in a national study of American attitudes toward wildlife, reported that 53 percent of those respondents who had hunted at some point in their life, no longer did so. Main reasons for stopping included lack of opportunity (41%), health reasons (19%) and because hunting had become too expensive (6%). In addition, 19 percent said that personal opposition to hunting was the most important reason for no longer hunting. Wright, et al. (1977) reported that Iowa hunters who had quit reported that game populations were too low and that other responsibilities prevented them from hunting.

#### Consistency of Participation

Relatively little is known regarding the phenomenon of reentering the hunting population after quitting. Factors related to reentry following desertion are poorly studied. In fact, little is known about the extent to which reentry is a factor affecting hunter population dynamics.

Applegate (1977) discussed the problems associated with reentry in attempting to develop a life table for the hunter population of New Jersey. Since hunters can drop out of the hunting population and join again at a later time,

this factor can have a significant effect on the dynamics of the population, if it is a common occurrence.

For the population of New Jersey hunters studied by Applegate, discontinuity of hunting experience (desertion followed by reentry) was not common. Approximately 9 percent of 237 hunters polled indicated that they had dropped out and reentered the hunting population at some point in their life. Of these, a temporary change in lifestyle (e.g., college or military service) and a temporary lack of time or interest were most often cited as reasons for discontinuity in hunting participation.

Langenau and Mellon (1980) reported that those recruited into hunting later in life, who were typically raised in urban areas and introduced into hunting by their peers, may purchase licenses inconsistently from one year to the next. Although these individuals represented a small proportion of the total hunting population in any given year, they exhibited high turnover rates and, the authors hypothesized, may be a large portion of those who buy licenses in some years but not in others.

#### METHODS OF THE 1980 NATIONAL SURVEY

Data used in this analysis were gathered as part of the 1980 National Survey of Fishing, Hunting, and Wildlife-Associated Recreation.

The 1980 survey was conducted in two phases. During January, 1981, 116,000 households were contacted, mainly by telephone. An adult member of each household was asked questions about the hunting, fishing, and nonconsumptive, wildlife-related recreational activities of each member of the household, 6 years of age and older. The response rate for the screening phase of the survey (also referred to as FH-2) was 95 percent.

The second phase of the survey consisted of detailed, face-to-face interviews with a subsample of individuals identified during the screening phase. To select this subsample, households were sorted into two levels -- those in which at least one member of the household fished or hunted for 30 days or spent at least \$500 for fishing and hunting, called substantial households, and non-substantial households, which included at least one hunter or fisherman but did not meet the criterion for substantial participation. Households were further sorted into hunter and non-hunter segments.

In each state, differential sampling rates were applied. One fourth to one third of the households in the non-substantial and non-hunter categories were contacted, as well as half of the households with hunters in the nonsubstantial categories. All the households in the substantial strata, whether or not they contained hunters, were contacted. In households selected for detailed interviews, all participants 16 years of age and older were interviewed in detail.

A total of 30,300 fishermen and hunters were interviewed in the detailed phase of the survey. A 90 percent response rate was achieved for eligible

sportsmen.

### STUDY DESIGN

This analysis of hunter population dynamics was conducted in three parts. In Part I, predictive models were developed to relate measures of hunter recruitment and desertion to key demographic and socioeconomic variables, as well as selected variables which describe the supply of hunting opportunities in a given state. Each state served as a case in the analysis, thus yielding models based on 50 observations.

Part II consisted of analyses of participation, recruitment, and desertion data using methods employed in traditional studies of population dynamics. Age structures of active hunters, age structures of new hunters, life tables and computations on desertion and reentry were generated for the national sample, regional samples, and state samples. The same computations were performed for groups of states with low, medium, and high rates of participation, and low, medium, and high rates of desertion from hunting.

In Part III, which was not part of the contracted analysis, we used the 1980 Survey data to examine several other parameters of interest in describing hunter population dynamics. We examined age structure of active hunters, age structure of new hunters and patterns of reentry (desertion followed by resumption of hunting) for the 50 states and for groups of states.

### METHODS AND FINDINGS

#### Part I - Factors Related to Variation in Recruitment and Desertion Rates

##### METHODS

Regression analysis was used to identify variables associated with variation in rates of recruitment into and desertion from hunting.

##### Response Variables

Dependent variables were formulated using data obtained from the screening questionnaire (FH-2) of the 1980 National Survey. Specific questions used were 1a, "Did anyone in this household do any hunting for game or other wildlife in the period from January 1st, 1980, to December 31st, 1980"; 1f, "Was 1980 the first year that (named active hunter) had ever hunted"; and 2a, "Is there anyone in this household who DID NOT go hunting in 1980, but who DID go hunting in 1979". The following dependent variables were used in regression analyses:

1. Desertion rate - In order to make recruitment and desertion rates comparable, 1979 was used as the base year for calculating both desertion and recruitment rates. Desertion rate was expressed as the percent of active 1979 hunters who did not hunt in 1980. The number of individuals in the sample who hunted in 1979 but not in 1980 was determined from responses to questions 2b and 2c in the screening questionnaire. The number of individuals in the sample who hunted in 1979 was determined by adding the number of active 1979 and 1980 hunters to the number of deserters in 1980 (determined by response to question 1b) and subtracting the number of hunters in the sample who reported hunting for the first time in 1980 (responses to question 1f).
2. Recruitment rate - The proportion of individuals who hunted for the first time in 1980 was expressed as a percent of the total number who hunted in 1979. This percentage was calculated by dividing the number of new 1980 hunters in the sample by the total number of active hunters in 1979 (see 1 above).
3. Recruitment to hunting as a percent of the state population -

The total number of new hunters in the 1980 hunting population of each state was calculated by multiplying the recruitment rate (see response variable number 2) by the total number of hunting licenses sold in that state in 1979. That product was then divided by the total state population in 1980 (1980 Census), to provide an estimate of the percentage of all state residents who took up hunting for the first time in 1980.

#### Independent Variables

The independent variables used in regression analyses reflected both the socioeconomic character of the residents of a given state and the supply of hunting opportunities in the state. Selection of socio-demographic variables was based on the findings of previous studies of hunter characteristics, hunting participation, and the dynamics of hunter populations. These variables were considered likely correlates of the dependent variables describing recruitment into, and desertion from, the hunter population. The inclusion of each independent variable in the analyses amounts to a testing of a hypothetical relationship between each independent variable and each dependent variable. The following variables were used:

1. State population, from the 1980 census;
2. State area, as reported in the Statistical Abstract of the United States (1981);
3. Population density, calculated by dividing the total state population (variable 1) by the state area (variable 2);
4. Percent of state population living in an SMSA, based on data for residents of Standard Metropolitan Statistical Areas (SMSA) from the 1980 census;

5. Per capita income for the state, from the Survey of Current Business (1982);
6. Median age of state residents, as reported in the 1980 census;
7. Percent of caucasians in the state population, determined by dividing the state's caucasian population (1980 census data) by the total number of state residents;
8. Level of education, expressed as the percent of state residents, 25 years of age or older, with one or more years of college; from 1980 census data;
9. Level of unemployment, expressed as percent of population unemployed, from 1980 census;
10. Percent of retired individuals in the state, based on the number of retired workers receiving social security benefits, including benefits payable to dependents in 1979, divided by the total state population; From the Statistical Abstract of the U.S. (1981);
11. Percent of state residents who are male, from 1980 census;
12. Mobility of the state population, indicated by the percent of the population, 14 years of age or older, who have resided in the state for their entire life (1976 data), from the Statistical Abstract of the U.S. (1981).

The following were used as independent variables to describe characteristics of the hunter population in the state:

1. Hunting participation, expressed as the percent of the state population, 16 years of age or older, who hunted in 1980, as

determined by the 1980 survey;

2. Hunting licenses sold in 1979, from Federal Aid summary, U.S. Fish and Wildlife Service, 1980;
3. Hunter education - whether or not hunter education was mandatory for new hunters in the state in 1980, (Evenden, 1981);
4. Median age of new hunters - the median age of individuals who reported hunting for the first time in 1980 was calculated using demographic information gathered in the screener;
5. Percent of new hunters under age 20 - the number of new hunters under age 20 expressed as a percent of all those who reported hunting for the first time in 1980;
6. Median age of deserters - the median age of those who reported hunting in 1979 but not in 1980, using demographic information for household members gathered in the screener.

In addition, the following variables were used to characterize the supply of hunting opportunities in the state. These variables reflect the quantity of lands serving as wildlife habitat and potential hunting lands, available game, hunter success, and state agency investments in wildlife programs. Except where noted, these data are for 1980 and are taken from "A summary of selected Fish and Wildlife Characteristics of the 50 states" (U.S. Fish and Wildlife Service 1983).

1. Percent of state area that is public land available to hunters, determined by dividing the quantity of land in public ownership available for hunting by the total state area;
2. Percent of state area that is private land available to hunters, calculated in the same manner as public

- land acreages noted above;
3. Percent of state in forestlands, using 1977 data for state forestland acreages, as contained in the 1981 Statistical Abstract of the United States (1981);
  4. Percent of state in farmland, using 1978 data from the Statistical Abstract of the United States (1981);
  5. Total expenditures for state game programs in 1980;
  6. Expenditures per hunter on state game programs, by dividing total expenditures by the number of hunting licenses sold;
  7. Number of birds stocked in a given state;
  8. Number of birds stocked per hunter;
  9. Success rate for deer hunters, indicated by the percent of deer hunters who succeeded in bagging one or more deer in 1980;
  10. Average number of deer bagged per hunter;
  11. 1980 Hunting license costs, including
    - a. the cost to hunt at all in the state, and
    - b. the cost to hunt deer in each state; taken from "A Summary of Sportfishing and Hunting License Requirement for the 50 States" (U.S. Fish and Wildlife Service, 1981);
  12. Changes in hunting license costs -- whether or not the costs of hunting licenses increased between 1979 and 1980, by comparing 1980 license costs with data for 1979 license fees (from Outdoor Life, September, 1979).

Two procedures were used to develop descriptive models for hunter desertion and recruitment. Correlation analysis was used as an initial filter to identify independent variables significantly related to dependent variables.

Multiple regression models for each dependent variable were then developed using the PROC STEPWISE program of SAS. Based on (1) calculated F ratios ( $p < 0.05$ ) and (2) the relative increase in the coefficient of determination ( $R^2$ ) resulting from inclusion of the variable, the variables likely to have the greatest predictive power for each dependent variable were identified. The purpose of this analysis was to identify variables and combinations of variables that would account for significant reductions in unexplained variation in the important response variables. Simply, we sought to determine;

1. What variables are important in understanding state-to-state variations in recruitment and desertion rates?
2. What is the relative contribution of each in explaining variation in the response variable?
3. What variables do not appear to be important in understanding variations in recruitment and desertion rates.

For variables that included observations that were substantially different from the modal values, log transformations of independent variables were used in the regression analysis to reduce the effect of outliers. By so doing, these observations would not dominate the computation of mathematical relationships.

Additional information on the procedures used in these analyses is available in the 1982 SAS User's Guide (SAS Institute Inc. 1982).

## RESULTS

### Desertion

Desertion rate -- that is, the percentage of the 1979 hunting population that did not hunt in 1980 -- varied widely among the 50 states. As illustrated in Table 1, desertion rates ranged from a minimum of 8.5 percent in Mississippi to a maximum of 51.8 percent in Massachusetts. This represents a six-fold difference in desertion rates between the minimum and maximum states. Even considering that Massachusetts was exceptional, there was a four-fold difference between the minimum value and the second highest observation (30.6% in Rhode Island).

The mean ( $\bar{X}$ ) dropout rate for all states was 18.1 percent and the standard deviation was 7.4. The great variation in desertion rates among states is reflected by a relatively large coefficient of variation (C.V.) of 40.5 for these data.

Simple correlations were used to identify independent variables that might be related to desertion. In order to simplify interpretation, correlation analyses were made only with non-transformed independent variables. Table 2 illustrates those variables that were significantly correlated ( $p < 0.05$ ) with desertion rate.

The variable that was most highly correlated with desertion rate was the hunting participation rate, or the percent of the state population, 16 years of age and older, that hunted in 1980. This variable was negatively correlated with desertion rate and had a correlation coefficient ( $r$ ) of -0.53. That is, states with the lowest hunter participation rates were likely to have the highest desertion rates. However, the relationship between these variables was not strong ( $r^2 = 0.28$ ).

Table 1. Desertion and recruitment rates, by state

| State          | Desertion Rate (%) | Recruitment as % of Active Hunters | Recruitment as % of General Population |
|----------------|--------------------|------------------------------------|----------------------------------------|
| Alabama        | 12.7               | 8.3                                | 0.7                                    |
| Alaska         | 20.2               | 9.3                                | 1.6                                    |
| Arizona        | 18.6               | 11.8                               | 0.8                                    |
| Arkansas       | 13.2               | 7.0                                | 1.1                                    |
| California     | 25.1               | 6.8                                | 0.2                                    |
| Colorado       | 17.6               | 8.6                                | 0.9                                    |
| Connecticut    | 21.5               | 8.4                                | 0.2                                    |
| Delaware       | 19.0               | 11.0                               | 0.5                                    |
| Florida        | 21.7               | 11.1                               | 0.3                                    |
| Georgia        | 17.4               | 12.0                               | 0.8                                    |
| Hawaii         | 29.4               | 11.3                               | 0.1                                    |
| Idaho          | 12.8               | 7.8                                | 1.9                                    |
| Illinois       | 28.1               | 6.6                                | 0.3                                    |
| Indiana        | 19.6               | 7.6                                | 0.6                                    |
| Iowa           | 12.2               | 9.7                                | 1.2                                    |
| Kansas         | 18.3               | 6.1                                | 0.6                                    |
| Kentucky       | 13.0               | 6.7                                | 0.6                                    |
| Louisiana      | 12.1               | 7.2                                | 0.6                                    |
| Maine          | 11.8               | 7.9                                | 1.5                                    |
| Maryland       | 14.2               | 6.4                                | 0.3                                    |
| Massachusetts  | 51.8               | 7.8                                | 0.1                                    |
| Michigan       | 13.8               | 6.6                                | 0.7                                    |
| Minnesota      | 11.3               | 8.9                                | 0.8                                    |
| Mississippi    | 8.5                | 6.9                                | 0.9                                    |
| Missouri       | 19.9               | 7.7                                | 0.8                                    |
| Montana        | 12.9               | 8.8                                | 2.2                                    |
| Nebraska       | 16.2               | 8.6                                | 1.0                                    |
| Nevada         | 28.5               | 9.0                                | 0.6                                    |
| New Hampshire  | 13.4               | 5.7                                | 0.6                                    |
| New Jersey     | 16.0               | 6.9                                | 0.2                                    |
| New Mexico     | 29.1               | 10.7                               | 1.2                                    |
| New York       | 16.7               | 7.3                                | 0.3                                    |
| North Carolina | 16.5               | 8.1                                | 0.5                                    |
| North Dakota   | 14.0               | 7.0                                | 1.0                                    |
| Ohio           | 20.9               | 4.8                                | 0.3                                    |
| Oklahoma       | 18.2               | 8.1                                | 0.7                                    |
| Oregon         | 16.2               | 6.1                                | 0.6                                    |
| Pennsylvania   | 13.8               | 7.5                                | 0.8                                    |
| Rhode Island   | 30.6               | 10.2                               | 0.2                                    |
| South Carolina | 14.1               | 7.7                                | 0.5                                    |
| South Dakota   | 12.6               | 8.9                                | 1.6                                    |
| Tennessee      | 24.9               | 6.0                                | 0.6                                    |
| Texas          | 21.0               | 8.9                                | 0.5                                    |
| Utah           | 20.2               | 7.0                                | 1.1                                    |
| Vermont        | 10.1               | 7.9                                | 2.1                                    |
| Virginia       | 14.7               | 8.6                                | 0.7                                    |
| Washington     | 22.0               | 7.8                                | 0.6                                    |
| West Virginia  | 9.8                | 7.2                                | 1.2                                    |
| Wisconsin      | 11.3               | 6.8                                | 1.0                                    |
| Wyoming        | 20.8               | 6.1                                | 2.5                                    |
| All States     | 18.1               | 8.0                                | 0.8                                    |

Table 2. Results of correlation and regression analysis; Response variable = DESERTION.

A. Correlation analysis

| <u>Variable</u>               | <u>r</u> |
|-------------------------------|----------|
| Hunting Participation rate    | - 0.53   |
| % of state population in SMSA | + 0.46   |
| State population density      | + 0.42   |
| Median income                 | + 0.37   |
| Education level               | + 0.29   |

B. Regression analysis

| <u>Variable</u>                            | <u>F ratio</u> | <u>cumulative R<sup>2</sup></u> |
|--------------------------------------------|----------------|---------------------------------|
| % of state population in SMSA              | 14.81          | 0.213                           |
| Log of state hunting license sales in 1979 | 8.42           | 0.359                           |
| % of new hunters below age 20              | 4.75           | 0.419                           |

Other variables found to be correlated with desertion rate included two measures of population density or urbanness, and income and education parameters. Both state population density ( $r = 0.42$ ) and percent of state population in SMSA ( $r = 0.46$ ) were positively correlated with hunting desertion rates. In addition, median income ( $r = 0.37$ ) and education level ( $r = 0.29$ ) were positively, though weakly, correlated with desertion. Studies by Applegate (1977) and others have reported similar findings for factors related to hunter participation and desertion rates in selected states.

Using rate of desertion as the dependent variable, regression analysis was used to build a multivariate model which would describe variation in desertion rates among the 50 states. The best model consisted of three variables which accounted for 42 percent of the variability in the dependent variable, desertion rate ( $R^2 = 0.419$ ).

The most important variable in this model was the percent of the state population living in SMSA's. This variable was positively correlated with desertion rate, indicating that states with the highest proportion of their population living in urban areas were likely to have the highest desertion rates.

The second most important variable in this model was the number of hunting licenses sold in the state in 1979. This variable was negatively correlated with desertion rate, indicating that states with the highest license sales in the previous year were likely to have the lowest desertion rates in 1980.

A third variable used in this model to describe desertion rates was the percent of the state's new hunter population that was under age 20.

Thus, lowest desertion rates were found in states where more new hunters are recruited before the age of 20.

The following model ( $R^2 = 0.419$ ) was developed to describe variation in desertion rates among the 50 states:

$$D = 33.82 + 0.14 X_1 - 2.59 X_2 - 0.17 X_3$$

where:

D = Rate of desertion

$X_1$  = % SMSA

$X_2$  = 1979 hunting license sales

$X_3$  = Percent of hunters recruited by age 20

It is interesting to note those variables that were not found to be important in developing a model of hunter desertion. For example, a frequently cited cause of increases in hunter desertion is increasing the cost of a hunting license. To test the effect of this variable on hunter desertion, states were sorted into those that had increased their license fees in 1980 and those whose license fees did not change between 1979 and 1980. Sixteen states experienced increases in license fee costs in 1980. The average rate of desertion from the hunting population for these states was 18.35 percent. This compares with a desertion rate of 18.07 percent for the 34 states that did not increase their license fees in 1980. The difference between these dropout rates was not significant ( $t = 0.13$ ;  $0.85 < p < 0.90$ ). Though the effect of an increase in license fees on hunter desertion rates in one state cannot be evaluated using these data, the findings suggest that increases in hunting license fees are not a factor related to variation in desertion rates among states.

It also appeared from this analysis that management variables (e.g., game

stocked, quantity of huntable lands) appear to have little effect on rates of hunter desertion. Forcing management variables into the desertion model accounted for no significant increase in explained variation. Three such variables and their influence on predictive power of the desertion model are illustrated in Table 3.

We draw some very general conclusions from the results of this analysis of desertion rates. First, it is clear that desertion is a factor that has a highly variable influence on the hunter populations of individual states. Variation in desertion rates among states is high, with a six-fold difference between the states with the maximum and minimum rates of desertion.

The factors that are most strongly correlated with desertion appear to reflect the social characteristics of a given state more than the influence of the management activities and decisions (e.g., license fee increases) of the state fish and wildlife agency. Previous studies have illustrated a strong correlation between the degree of urbanization of a state and the rate of hunting participation and hunter desertion. However, never before has this relationship been illustrated in more than a few selected states. This finding and its implications will be discussed in greater detail later in this paper.

### Recruitment

Recruitment was evaluated in two ways -- first, as a percentage of the active hunter population in each state, and then as a percentage of the total state population. Each approach to analyzing recruitment will be discussed below.

#### Recruitment as a Percentage of Active Hunters

As illustrated in table 1, there is very little variation in the percent of the hunting populations in each state that are new hunters (i.e., hunted for

Table 3. Influence of Selected Management Variables on the Predictive Strength (increase in  $R^2$ ) of the Hunter Desertion Model

| <u>Variable</u>                                       | <u>F Ratio</u> | <u>Increase<br/>in <math>R^2</math></u> |
|-------------------------------------------------------|----------------|-----------------------------------------|
| Log of Dollars Spent on<br>Game Management in a State | 0.29           | 0.03                                    |
| Log of the Number of Game<br>Birds Stocked in a State | 0.13           | 0.03                                    |
| Success Rate of Deer<br>Hunters                       | 0.08           | 0.03                                    |

the first time in 1980). The mean ( $\bar{X}$ ) percentage of new hunters in all states was 8.0, with a standard deviation of 1.6. The percentages ranged from 4.8 in Ohio to 12.0 in Georgia. This reflected only slightly more than a two-fold difference in the range of recruitment values when expressed as a percentage of active hunters. When compared with the range of values for hunter desertion discussed above, the recruitment rate appears to be strikingly consistent across the 50 states. The coefficient of variation for the recruitment rate was 20.4, further reflecting the low variance in the percentage of hunters in each state who hunted for the first time in 1980. Correlation analysis revealed only one variable significantly correlated ( $p < 0.05$ ) with recruitment when expressed as a percentage of active hunters (see Table 4). The variable hunting license sales in 1979 was negatively correlated with recruitment ( $r = -0.30$ ), suggesting that higher license sales were associated with lower recruitment rates. The correlation is relatively weak and may have resulted from chance rather than a meaningful relationship, since it is not clear why higher license sales should be associated with lower recruitment rates. Perhaps, if the probability of an individual becoming a hunter is affected by having hunters among his associates (see the following results and discussion), then it may be that higher numbers of hunters do not have a continuing additive effect on the number of new hunters. The young man whose father hunts has a high probability of becoming a hunter. Uncles, brothers, and neighbors who hunt might add further impetus to a decision to take up hunting, but it is unlikely that each additional hunting associate has an equal, additive effect on that decision, or on the absolute number of new hunters. For this reason, we might expect high hunting populations to have a negative relationship with recruitment rate. Note that we refer to rate here,

Table 4. Results of correlation and regression analysis; Response variable = RECRUITMENT expressed as a percentage of active hunters.

A. Correlation analysis

| <u>Variable</u>               | <u>r</u> |
|-------------------------------|----------|
| Hunting license sales in 1979 | - 0.30   |

B. Regression analysis

| <u>Variable</u>                            | <u>F ratio</u> | <u>cumulative R<sup>2</sup></u> |
|--------------------------------------------|----------------|---------------------------------|
| Log of state hunting license sales in 1979 | 11.12          | 0.188                           |

wherein the number of new hunters is expressed as a percentage of all active hunters.

Multiple regression analysis did not improve the predictive power of the model of hunter recruitment as a percentage of active hunters. Only the log of 1979 hunting license sales exceeded the  $p < 0.05$  criterion for inclusion in the equation. This variable accounted for only 19 percent ( $r^2 = 0.188$ ) of the variation in the response variable (See Table 4). The one variable model ( $R^2 = 0.188$ ) for Recruitment as a percent of active hunters is as follows:

$$R_1 = 12.12 - 0.75X_1$$

where:

$R_1$  = Recruitment as a % of active hunters

$X_1$  = log of 1979 hunting license sales

#### Recruitment as a Percentage of the General Population

In contrast to the range of values for measures of recruitment as a percentage of the active hunters in each state, there was extreme variation in the distribution of recruitment when expressed as a percentage of the state's general population. As reflected in Table 1, the range of values included a minimum of 0.1 percent in Massachusetts; that is, less than one-tenth of one percent of the general population were new hunters in 1980, to 2.5 percent for Wyoming. The mean ( $\bar{X}$ ) for all states was 0.82, with standard deviation of 0.55 and a coefficient of variation a relatively high 67.9.

Correlation analysis identified a total of seven variables that were significantly associated ( $p < 0.05$ ) with recruitment expressed as a percentage

of the general population (see Table 5). These variables can be grouped into the following categories:

- (1) Hunter participation rate - The percent of active hunters in the general population in 1980 was highly correlated with recruitment ( $r = 0.90$ ), reflecting the constancy of recruitment rates as a percentage of all active hunters.
- (2) Measures of urbanness - Three variables that were highly correlated with recruitment were related to the urban nature of the state. The percent of the state population living in SMSA's - the most direct measure of the proportion of the state population being influenced by the urban environment - was highly correlated with recruitment as a percentage of the state population ( $r = -0.83$ ). State population density ( $r = -0.53$ ) and total state population ( $r = -0.48$ ) are measures of the same phenomenon, though less sensitive indicators of urbanness.
- (3) Demographic correlates with hunting - The median age of the state population was also negatively correlated with recruitment rate ( $r = -0.46$ ). Since most people begin hunting when young, a younger state population will likely favor higher recruitment rates. Percent males in the state population was positively correlated with recruitment, probably reflecting the fact that hunting is a male dominated sport.
- (4) State area - The total area (square miles) of the state was positively correlated with recruitment ( $r = 0.29$ ). This relationship may reflect the availability of huntable lands in a state or may be linked to the measures of population density

Table 5. Results of correlation and regression analysis; Response variable = RECRUITMENT expressed as a percentage of the general population.

A. Correlation analysis

| <u>Variable</u>                | <u>r</u> |
|--------------------------------|----------|
| Hunting participation rate     | + 0.90   |
| % of state population in SMSA  | - 0.83   |
| State population density       | - 0.53   |
| State population               | - 0.48   |
| Median age of state population | + 0.46   |
| % males in state population    | + 0.39   |
| State area                     | + 0.29   |

B. Regression analysis

| <u>Variable</u>                               | <u>F ratio</u> | <u>cumulative R<sup>2</sup></u> |
|-----------------------------------------------|----------------|---------------------------------|
| % of state population in SMSA                 | 106.68         | 0.690                           |
| Log of % of state in forest or farmland       | 18.67          | 0.778                           |
| Log of cost of basic hunting license in state | 6.66           | 0.806                           |

that were more strongly correlated with recruitment as noted above.

Regression analysis was used to develop a model for recruitment as a percentage of the general population. In this analysis, we deleted participation as a candidate independent variable since participation rates were essentially used in calculating the dependent variables (see Methods). While we believe that the highly significant correlation between participation and recruitment as a percentage of state population is an important finding, we did not want to risk confounding the regression analysis by including the participation variable.

The strongest regression model contained three variables that appear to reflect three generally unrelated factors that contribute to variation in the dependent variable, and accounted for 80 percent of the variation observed (See Table 5). As reflected in the discussion of results of the correlation analysis, the percent of the state population residing in SMSA's was highly correlated with recruitment. In the regression model, this variable was again strongly related to recruitment ( $R^2 = 0.69$ ), reinforcing the notion that highly urbanized states are likely to have the lowest rates of hunter recruitment. The second variable in the recruitment model was the log of the percentage of state area in forest or farmland. This variable added nine percent to the explained variation in the equation. States with a high proportion of forests or farmlands (most likely reflecting hunting opportunity) are likely to have a higher per capita recruitment rate. A third variable related to per capita recruitment of new hunters was the cost of a hunting license. This variable accounted for an additional three percent of the explained variation in recruitment. It would appear that low license

costs may increase the probability that an individual will start hunting, although the relationship is weak.

The 3 variable model for recruitment as a percent of the general population of a state ( $R^2 = 0.806$ ) is as follows:

$$R_2 = 2.42 - 0.02 X_1 + 0.15 X_2 - 0.31 X_3$$

where:

$R_2$  = Recruitment as a % of the general population of a state

$X_1$  = % of population in SMSA

$X_2$  = log of % of state in forest or farmland

$X_3$  = log of cost of basic hunting license

As with our desertion model, we attempted to force management-related variables into the recruitment models. Again we found no significant decrease in unexplained variability. One variable of special interest in considering recruitment is that of mandatory hunter education, since it is possible that a hunter education requirement might have an inhibiting effect on recruitment. According to Evenden (1981), 29 states have a mandatory hunter education program and 21 states have a voluntary program. We found that mandatory versus voluntary hunter education had no effect on recruitment as a percentage of active hunters (mandatory = 8.0%, voluntary = 8.1%;  $t = 0.24$ ;  $0.8 < p < 0.9$ ) or recruitment as a percentage of the general population (mandatory = 0.85%, voluntary = 0.77%;  $t = 0.59$ ;  $0.5 < p < 0.6$ ). It appears that mandatory hunter education does not inhibit recruitment into hunting.

## PART II - AGE-SPECIFIC DESERTION RATES

### Methods

In 1977, Applegate described the dynamics of the New Jersey hunter population by using data on recruitment and desertion collected from a sample of active and inactive hunters. An important part of his analysis was the presentation of a "life" table for New Jersey hunters. A life table is a tool commonly used by wildlife biologists to characterize the age-specific death rates observed in a population of a given species of wildlife. In simplest terms, a life table represents a tabulation of the deaths over time of a hypothetical cohort of 1000 animals. The standard life table consists of five columns, as follows:

Age class - a time interval appropriate to the biology of the species and availability of adequate data.

$l_x$  - the number of animals alive at the beginning of the age interval.

$d_x$  - the number of animals dying during the age interval.

$q_x$  - the probability of an individual dying during the age interval.

Also called mortality rate when extrapolated to the entire cohort.

$e_x$  - the life expectancy of an individual alive at the beginning of the age interval.

Data for life tables can be collected in a variety of ways. In general, the data may involve observation of deaths in a single cohort over time (the horizontal, or cohort, life table), or observation of deaths or age structure of more than one cohort during a brief period of time (the vertical, or time-specific, life table).

For Applegate's original adaptation of life table methodology to hunter population dynamics, "life" was defined as the number of years that an

individual actively participated in hunting. Respondents to a statewide survey were characterized as active hunters -- having hunted within two years prior to the time of the interview, or inactive -- having hunted at some time during their life but not during the previous two years. All respondents who had hunted were asked at what age they had begun, and inactive hunters were asked to give the age at which they ceased hunting. These data were used to construct a life table which permitted one to determine the likelihood that an individual would "die" -- desert the hunting ranks -- given the number of years he or she had hunted. (For more information on the methodology of this earlier study, see Applegate, 1977).

In part II of this study, an effort was made to develop life tables for the American hunter population and hunter populations in each of the 50 states similar to that which had been developed for New Jersey. However, several differences between the 1980 National Survey data and Applegate's New Jersey hunter data required that different techniques be used to characterize age-specific desertion in the hunter population.

First, the 1980 Survey data is a one year description of the characteristics of the American hunter population. Limited data were gathered to describe the past hunting activities of respondents identified as hunters. Only for active hunters, for example, was the age at which they began hunting determined. For hunters who hunted in 1979 but not in 1980, no data were gathered on the number of years hunted before dropping out. Furthermore, it could not be determined if these dropouts would remain inactive, or reenter the hunter ranks at some point in the future.

Applegate (1977), in his New Jersey study, reconstructed the past history of all respondents. While problems with recall bias were likely in the New

Jersey study, his methods had the advantage of filtering out the problem of reentry, since inactive hunters were asked to indicate only the age at which they quit hunting. The authors of this report recognize that the 1980 Survey data were intended to describe the characteristics and behaviors of active hunters. In realizing this objective, it must be pointed out that the utility of the Survey data for constructing life tables is limited.

Desertion rates in the 1980 Survey data are more than double the recruitment rates. ( $\bar{X}$  desertion = 18.2%;  $\bar{X}$  recruitment = 8.0%). If both measures were accurate reflections of the number of people entering and dropping out of the hunter population, then hunter populations would be declining dramatically nationwide. Since this is not the case, we need to address the issue of accuracy of our measures of recruitment and desertion. We expect that recruitment data are more accurate data for the following reasons: First, a respondent need only recall that 1980 was the first year that a member of their household had hunted, whereas the respondent needed to recall that the dropout had not hunted in 1980, but that he or she had hunted in 1979. The most likely recall bias would have been in remembering whether the last year hunted was 1979 or earlier. Errors in recall probably would have elevated our estimate of annual desertion rate. Second, and more significant, a person will hunt for the first time only once, but he or she may drop out of hunting for a year or more several times during his or her lifetime. Thus our estimate of annual desertion rate using the National Survey data is an addition of permanent dropouts and temporary dropouts who will reenter the hunter population in later years, and thus is more likely to be an overestimate of the magnitude of hunters permanently leaving the hunter population. More will be said of reentrants later in this report. For our

purposes at this point, it is important to remember that we cannot separate the permanent dropouts from the temporary dropouts who will reenter the hunting population. The life tables generated from our analysis will therefore not be comparable to those generated by Applegate (1977). Also, since the phenomenon of temporary desertion is probably not uniformly distributed over all age classes, there will be an important bias in our life tables. The only available data on discontinuous hunting behavior (Applegate 1977) would lead us to believe that there is more temporary desertion among hunters in their late teens and early twenties than at later ages.

Hunters can be recruited at any age. While most begin before age 20, an increasing number of individuals have begun hunting later in life (Applegate 1982 and data presented later in this report). The age at which individuals began hunting was not gathered during the screener interviews. Thus, data on the age at initiation of those who deserted in 1980 are limited. In the section that follows, the issue of years of hunting participation prior to desertion can only be addressed for active hunters. That is, we have no way of knowing if the 25 year old deserter has been hunting one year or ten. This will bias the lifetable data toward lower estimates of "juvenile" (i.e. those who have been hunting only a few years) desertion rates.

Three alternative methods were used to calculate age-specific desertion rates based on the 1980 Survey data. For two of these methods, we were able to compute complete life tables. The three methods, and their advantages and disadvantages, are described below:

#### Method 1 - Calculation of Annual Desertion Rates

For this method, an estimate of annual desertion rate was calculated based upon the ratio of hunters who dropped out in 1980 to the number of active hunters in 1979. For each age class (10 year for individual states, 5 years for groups of states), the number of dropouts was determined as well as the number of active hunters in 1979. The ratio of 1980 dropouts to active 1979 hunters provided an estimate of the average annual dropout rate ( $q_x$ ) for each age class. This is not the probability of a hunter dropping out during the ten year period, but the probability that he/she will drop out during any one year during that 10 year interval (5 years for groups of states).

This method provides our best estimate for variation in the annual dropout rate for specific age classes of hunters in each state or group of states. Data for dropouts are used directly to estimate turnover rates. Also, these estimates of desertion rates take into consideration the relative strength of each age class, thus filtering out biases that will occur in the remaining 2 methods that result from variations in strength of an age class. Finally, since the data used for these computations come exclusively from the screener, ample data exist to calculate desertion for each state and each age class in each state.

However, a life table cannot be constructed using these data. First, an estimate of the desertion rate ( $q_x$ ) for a 10 year interval cannot be based on the average annual  $q_x$  during the interval. Second, the data are inadequate to create a life table using one year intervals. Finally, the problem of reentry has a major impact on these data. Due to the effect of reentry on estimates of hunter desertion (see earlier discussion), estimates of  $q_x$  for any cohort will be artificially elevated. If these data were extrapolated to a

hypothetical cohort of 1000 individuals, the cohort would all have dropped out by age 30, when, in fact, only about half of all hunters will have dropped out by that age.

#### Method 2 - An Age-At-Desertion Life Table

The age-at-desertion life table is a time-specific life table. That is, it presents a picture of desertion from the hunting population of a state or region at one point in time -- 1980.

Data used in constructing this life table were from those individuals who reported dropping out of the hunter ranks in 1980. These individuals were grouped, by chronological age classes, into 10 year intervals for states and five year intervals for groups of states. When extrapolated to a cohort of 1000, these data represent the  $d_x$  column, from which other data in a standard life table could be computed.

The advantages of this method are that life tables are constructed using data from dropouts, rather than assuming constant recruitment rates, as will be described in the following method. In addition, since the data are recorded in the respondent's chronological age, the interpretation of these tables is more relevant to the needs of the wildlife manager than will be the data described in the third method.

The greatest disadvantage of this approach is the unknown effect of those hunters who will reenter the hunting ranks. Based on the ratio of deserters to new initiates described earlier, it appears that about half of the deserters eventually return to the hunter ranks, and this phenomenon cannot be addressed in life table construction.

An additional weakness of this method of life table construction is that variation in the size of active hunter age classes cannot be taken into

account. That is, the number of dropouts in a given age class may not reflect an accurate dropout rate if there are more hunters in that age cohort than in another.

Also, since these data are in chronological age, the life table cannot reflect the number of years that an individual hunted before dropping out. For example, there is no way of telling if the 25 year old hunter who dropped out in 1980 has been hunting one or 15 years. This will bias the life table away from early mortality. As a final problem with this method, sample sizes for individual states are relatively small.

#### Method 3 - A Static Life Table

The static life tables (also time-specific) were constructed using data on the current age structure of active hunters. The basic assumption of this method is that recruitment into hunting is constant over time and that differences in the numbers of hunters in each age class reflect the number of deserters from that cohort. Ten year age classes were used in constructing life tables for individual states while five year intervals were used when evaluating desertion among groups of states.

The primary advantage of constructing the static life table is that it focuses upon years of hunting experience for active hunters rather than chronological age of hunters. The number of years of hunting participation by an individual (HUNTAGE) is computed as the difference between the hunter's chronological age (from demographic data collected in the screener) and the age at which he/she began hunting (from question 47a in the detailed questionnaire). The active hunter who is 15 years old and started at 10 would have a HUNTAGE of  $15-10 = 5$ , and be in the same HUNTAGE class as the 30 year old hunter who began hunting at age 25. The hunter who hunts only 1 year would have a HUNTAGE of

zero. Thus, the problem of varying ages at recruitment among hunters is overcome. Also, since we deal only with active hunters in this method, the problems of confounding desertion and reentry are avoided. In addition, all data were collected from the hunter himself in the detailed interview rather than from a member of the household in the screener. Finally, since we are dealing only with variation in the size of age classes of active hunters, the declines in size of an age class might be the result of voluntary desertion or actual death of the hunters. Certainly some of the changes in hunter populations are the result of sportsmen dying. In the older age classes, this is probably a dominant source of age class variation. With the other methods of computing life tables, wherein we use only data from respondents who provide information on voluntary desertion, we cannot assess the effect of sportsmen death on the dynamics of hunter populations.

The principal disadvantage of this life table method is that the assumption of constant recruitment for all age cohorts is weak. In fact, as noted in the appended life tables, in many states there is an increase rather than a decrease in age-class size for one or more HUNTAGE classes. In our presentation of life table data, when a HUNTAGE class has increased rather than decreased in size, an asterisk has been inserted.

There are two other disadvantages to this method. First, since age at initiation data were only gathered for hunters who participated in the detailed interviews, sample sizes for many states are small, thus decreasing the precision of our estimates of the data displayed in a life table. Second, since we base this table on the individual's HUNTAGE, we cannot extrapolate the data to a hunter's chronological age. Inferences about the probability of desertion of an individual can only be made if that person's HUNTAGE is known,

and that datum is generally not available to managers. License receipts from most states, on the other hand, would contain the hunter's chronological age.

### Results

Data on average annual dropout rates and two life tables for each state, for the 9 geographical regions, and for states aggregated according to 3 levels of participation and 3 levels of desertion rates are appended to this report. In reviewing these tables, it should be remembered that the age-at-desertion life table is interpreted in chronological age and the age structure of active hunters life table is interpreted in HUNTAGE years. Also, the data for individual states have been generated from relatively small sample sizes. We have attempted to address this problem in part by accumulating age classes into 10 year intervals for each state. Nonetheless, there is considerable variability in the data that can be attributed to randomness associated with small sample sizes. For this reason, state managers and administrators may choose to utilize data from the life tables prepared for several states (by geographic region, or states with similar participation or desertion rates) where larger sample sizes minimize the impact of randomness.

In each life table, the two columns of most interest will be columns labeled  $q_x$  and  $e_x$ . The  $q_x$  column denotes the probability of an individual who enters an age class, dropping out of hunting during that age interval. For instance, using the life table for all states (Table 6), the  $q_x$  value for age class 10-14 is 0.044, meaning that the 10 year old hunter in the U.S. has 44 chances out of 1000 of dropping out of hunting before reaching age 15.

The  $e_x$  column denotes the mean expectation of hunting life, or hunting life expectancy. Again using the data for all states (Table 6), the 10 year old hunter has a hunting life expectancy of 25.7 years. This column may be of

Table 6. A summary of age-specific desertion statistics for American hunters.

A. Observed desertion rates based on ratio of dropouts to active hunters:

| <u>Hunter's Age</u> | <u>No. Active Hunters</u> | <u>% of all Hunters</u> | <u>No. Dropouts</u> | <u>Average annual dropout rate</u> |
|---------------------|---------------------------|-------------------------|---------------------|------------------------------------|
| <5                  | 0                         | 0.0                     | 0                   | 0.000                              |
| 5-9                 | 423                       | 1.4                     | 86                  | 0.169                              |
| 10-14               | 2119                      | 6.9                     | 252                 | 0.106                              |
| 15-19               | 4218                      | 13.7                    | 579                 | 0.121                              |
| 20-24               | 4129                      | 13.4                    | 830                 | 0.167                              |
| 25-29               | 4135                      | 13.4                    | 855                 | 0.171                              |
| 30-34               | 3676                      | 11.9                    | 740                 | 0.168                              |
| 35-39               | 2871                      | 9.3                     | 566                 | 0.165                              |
| 40-44               | 2206                      | 7.2                     | 475                 | 0.177                              |
| 45-49               | 1750                      | 5.7                     | 336                 | 0.161                              |
| 50-54               | 1569                      | 5.1                     | 314                 | 0.167                              |
| 55-59               | 1276                      | 4.1                     | 262                 | 0.170                              |
| 60-64               | 1031                      | 3.4                     | 191                 | 0.156                              |
| 65-69               | 769                       | 2.5                     | 166                 | 0.178                              |
| 70-74               | 369                       | 1.2                     | 95                  | 0.205                              |
| 75-79               | 169                       | 0.5                     | 52                  | 0.235                              |
| 80-84               | 43                        | 0.1                     | 18                  | 0.295                              |
| 85-89               | 12                        | 0.04                    | 7                   | 0.368                              |
| 90-94               | 3                         | 0.01                    | 1                   | 0.250                              |
| 95-99               | <u>2</u>                  | <u>0.006</u>            | <u>0</u>            | <u>0.000</u>                       |
|                     | 30770                     | 100                     | 5825                | 0.159                              |

B: Life Table based on age of dropouts:

| <u>Age Class</u> | <u><math>l_x</math></u> | <u><math>d_x</math></u> | <u><math>q_x</math></u> | <u><math>e_x</math></u> |
|------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| <5               | 1000                    | 0                       | 0.000                   | 35.2                    |
| 5-9              | 1000                    | 15                      | 0.015                   | 30.2                    |
| 10-14            | 985                     | 43                      | 0.044                   | 25.7                    |
| 15-19            | 942                     | 99                      | 0.105                   | 21.7                    |
| 20-24            | 843                     | 142                     | 0.168                   | 18.9                    |
| 25-29            | 701                     | 148                     | 0.211                   | 17.3                    |
| 30-34            | 553                     | 127                     | 0.230                   | 16.3                    |
| 35-39            | 426                     | 97                      | 0.228                   | 15.4                    |
| 40-44            | 329                     | 82                      | 0.249                   | 14.2                    |
| 45-49            | 247                     | 58                      | 0.235                   | 13.0                    |
| 50-54            | 189                     | 54                      | 0.286                   | 11.3                    |
| 55-59            | 135                     | 45                      | 0.333                   | 9.8                     |
| 60-64            | 90                      | 33                      | 0.367                   | 8.4                     |
| 65-69            | 57                      | 28                      | 0.491                   | 6.8                     |
| 70-74            | 29                      | 16                      | 0.552                   | 5.9                     |
| 75-79            | 13                      | 9                       | 0.692                   | 5.0                     |
| 80-84            | 4                       | 3                       | 0.750                   | 5.0                     |
| 85-89            | 1                       | 1                       | 1.000                   | 2.5                     |
| 90-94            | 0                       | 0.2                     | 0.000                   | 0.0                     |

Table 6 (continued).

## C. Life Table based on age structure of active hunters:

| <u>Age Class</u> | <u><math>l_x</math></u> | <u><math>d_x</math></u> | <u><math>q_x</math></u> | <u><math>e_x</math></u> |
|------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| <5               | *                       | *                       | *                       | *                       |
| 5-9              | *                       | *                       | *                       | *                       |
| 10-14            | 1000                    | 109                     | 0.109                   | 24.2                    |
| 15-19            | 891                     | 91                      | 0.102                   | 21.8                    |
| 20-24            | 800                     | 161                     | 0.201                   | 19.0                    |
| 25-29            | 639                     | 104                     | 0.163                   | 18.2                    |
| 30-34            | 535                     | 127                     | 0.237                   | 16.3                    |
| 35-39            | 408                     | 76                      | 0.186                   | 15.5                    |
| 40-44            | 332                     | 63                      | 0.190                   | 13.5                    |
| 45-49            | 269                     | 54                      | 0.201                   | 11.1                    |
| 50-54            | 215                     | 64                      | 0.298                   | 8.2                     |
| 55-59            | 151                     | 91                      | 0.603                   | 5.7                     |
| 60-64            | 60                      | 37                      | 0.617                   | 5.4                     |
| 65-69            | 23                      | 14                      | 0.609                   | 5.0                     |
| 70-74            | 9                       | 7                       | 0.778                   | 3.9                     |
| 75-79            | 2                       | 2                       | 1.000                   | 2.5                     |
| 80-84            | 0                       | 0.5                     | 0.000                   | 0.0                     |

particular value to managers and planners, since it will allow a gross estimate of the number of active hunting years left for each age class of hunters in the hunter population. For instance, 5000 hunters of age 10 in the United States will have an estimated total of  $5000 \times 25.7 = 128,500$  license buying years ahead of them. By knowing the present age structure of a state's hunter population, the manager can make a gross projection of future hunting license sales. Again, however, we need to remember that permanent dropouts and re-entrants have both contributed to the data used in computing the life tables. Our estimates of  $q_x$  are therefore probably exaggerated and our estimates of  $e_x$  are therefore conservative. Projections of future license sales using these tables should therefore provide minimum estimates.

The age-specific desertion rates reported in the life tables, for both methods of computation, show a similar pattern (Table 6). That is, desertion rates are relatively low during the lower age classes, increase slowly over the mid-range of age classes, and increase rapidly to high levels with advancing age. The average 5 year dropout rates reported for all Americans using Method 3 (HUNTAGE) are strikingly similar to those reported by Applegate for New Jersey (1977). Between HUNTAGE of 10 and 50 the  $q_x$  values vary between 0.100 and 0.200 in both studies. Applegate could not compute  $q_x$  values for his sample beyond HUNTAGE 50, but his study showed an increasing trend in dropout rates at higher ages. In this study, the dropout rates increase markedly after HUNTAGE 50, which is to be expected since we are dealing with hunters of chronological age of 60 or more.

The greatest difference between this study and Applegate's findings is found in the estimation of early desertion (desertion within the first 5 years of hunting). Applegate (1977) found that the  $q_x$  value for his first HUNTAGE

interval was significantly higher than values for subsequent intervals, and also showed that this value has been increasing in recent years in New Jersey, i.e., that more and more hunters are dropping out of hunting within 5 years of initiation. In this study, because the HUNTAGE life table was constructed based on the age structure of active hunters, we were unable to compute  $q_x$  values for the first 2 age intervals. We believe that differences are attributable to the methods used in the two studies, since Applegate interviewed both active and inactive hunters, and the HUNTAGE life tables of this study are based on active hunters only. The assumption of constant recruitment made in development of HUNTAGE life tables in this study is probably not realistic. Further, given the wide range in hunting participation rates and rates of recruitment as a percentage of the general population, the sample of active hunters is probably biased toward the persistent hunter and away from the transient, or early dropout hunter. At any rate, it is not possible to make a definitive comparison between Applegate's findings and those of this study. The issue of early desertion, which is probably a very important dimension in understanding hunter population dynamics, will require additional research with methods appropriate to this particular problem.

While differences in methodology make comparisons with earlier studies difficult, it is possible to make comparisons between subsets of the 1980 National Survey data set. Whatever problems exist in the assumptions of our analysis, the same treatment of data for subsets of the data will allow some meaningful comparisons between states and groups of states. In this analysis, we generated life tables (2 methods) for the 9 geographic regions and for groups of states aggregated according to low, medium, and high participation

rates<sup>1</sup> and low, medium, and high desertion rates<sup>2</sup>. We did not analyze 3 levels of recruitment, since recruitment as a percentage of the hunter population shows very little variability and recruitment as a percentage of the general population is highly correlated with participation. In these analyses, desertion rates were computed for the first three 15 years age intervals (see Table 7).

Only small differences in desertion were found among states when those with low, medium, and high levels of hunting participation and desertion were compared using life tables based on chronological age of known deserters. Likewise, using HUNTAGE life tables, only small differences ( $p < 0.05$ ) were observed between 3 levels of desertion. As illustrated in table 7, states with low desertion rates had slightly higher rates of desertion in the 0-14 year cohort ( $p < 0.05$ ). For the 15-34 HUNTAGE cohort, differences were also small, with the highest desertion rates in states with highest overall rates of desertion (0.63 compared to 0.50 and 0.57 for states with low and medium

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<sup>1</sup> Low participation states had levels of participation less than 6%. These 11 states were: Cal., Conn., Del., Fla., Haw., Ill., Md., Mass., N.J., N.Y., and R.I. Medium participation states had levels of participation between 9% and 16%. These 25 states were: Alab., Ariz., Colo., Ga., Ind., Iowa, Kan., Ky., La., Mich., Mo., Neb., Nev., N.H., N.M., N.C., Ohio, OK., Or., Pa., S.C., Tenn., Tex., Va. and Wash. High participation states had levels of participation above 18 %. These 14 states were: Alask., Ark., Ida., Me., Minn., Miss., Mont., N.D., S.D., Utah, Vt., W.Va., Wis. and Wyo.

<sup>2</sup> Low desertion states had rates below 15%. These 21 states were: Alab., Ark., Ida., Iowa, Ky., La., Me., Md., Mich., Minn., Miss., Mont., N.H., N.D., Pa., S.C., S.D., Vt., W.Va., and Wisc. Medium desertion states had desertion rates between 16% and 22%. These 21 states were: Alask., Ariz., Colo., Conn., Del., Fla., Ga., Ind., Kan., Mo., Neb., N.J., N.Y., N.C., Ohio, OK., Or., Tex., Utah, Wash. and Wyo. High desertion states had desertion rates above 24%. These 7 states were Cal., Haw., Ill., Nev., N.M., R.I., and Tenn. Massachusetts was deleted from this analysis because the reported desertion rate of 52% exceeded the next nearest value by 21%.

Table 7. Variations in HUNTAGE specific desertion rates related to differences in participation rates, desertion rates, and geographic region.

| <u>PARTICIPATION</u>     | <u>HUNTAGE CLASS</u> |              |              |
|--------------------------|----------------------|--------------|--------------|
|                          | <u>0-14</u>          | <u>15-34</u> | <u>35-54</u> |
| Low                      | 0.30                 | 0.56         | 0.63         |
| Medium                   | 0.09                 | 0.52         | 0.64         |
| High                     | 0.10                 | 0.56         | 0.61         |
| <u>DESERTION</u>         |                      |              |              |
| Low                      | 0.13                 | 0.50         | 0.63         |
| Medium                   | 0.09                 | 0.57         | 0.68         |
| High                     | 0.10                 | 0.63         | 0.56         |
| <u>GEOGRAPHIC REGION</u> |                      |              |              |
| New England              | 0.14                 | 0.53         | 0.60         |
| Middle Atlantic          | 0.25                 | 0.50         | 0.72         |
| East North Central       | 0.26                 | 0.50         | 0.63         |
| West North Central       | 0.15                 | 0.61         | 0.53         |
| South Atlantic           | 0.08                 | 0.56         | 0.56         |
| East South Central       | 0.07                 | 0.52         | 0.55         |
| West South Central       | 0.06                 | 0.49         | 0.66         |
| Mountain                 | 0.09                 | 0.59         | 0.71         |
| Pacific                  | 0.04                 | 0.58         | 0.77         |

desertion rates). For the HUNTAGE 35-54 years group, there were no significant differences between the three groups of states.

A highly significant difference in HUNTAGE-specific desertion rates was noted when comparing states with low, medium, and high participation rates (Table 7). The large difference in desertion rates ( $X^2 = 79.7$ ;  $p < 0.001$ ) was found in comparing those who deserted after 1 to 15 years of hunting (desertion within the 0-14 HUNTAGE class). Low participation states had an early dropout rate of 0.30 compared to 0.09 and 0.10 for states with medium and high rates of hunting participation, respectively. However, for the 15 to 34 and 35 to 54 year desertion cohorts (i.e., 16 to 35 or 36 to 55 years of hunting before dropping out), there were no differences between states with low, medium, and high participation rates.

Geographic differences in age specific desertions were evaluated by comparing desertion rates between different regions of the country (Table 7). For HUNTAGE classes 15-34 years ( $X^2 = 6.34$ ) and 35-54 years ( $X^2 = 8.29$ ) there were no significant differences in desertion rates between regions of the country. However, for HUNTAGE class 0-14 years, strong regional differences in desertion existed ( $X^2 = 88.3$ ;  $p < 0.001$ ). The mean desertion rate for the 0-14 years HUNTAGE class for the nation as a whole was 0.13. The northern and eastern regions of the country (New England, Mid-Atlantic, East North Central and West North Central Census regions) had above average desertion rates for this HUNTAGE class. Remaining portions of the country in the South and West exhibited below average rates of desertion.

From the large differences in desertion rates found in the 0-14 years HUNTAGE class for states differing in levels of participation in hunting, and from similar differences found between the geographic regions, it would appear that

high levels of "juvenile mortality" (early dropout) that Applegate (1977) found in New Jersey might apply primarily to states with low hunting participation, rather than those with medium or high participation rates. It could be speculated that a higher proportion of dropouts in the 0-14 years HUNTAGE class do not return to hunting. That is, they are more likely to be permanent dropouts rather than deserters who are likely to reenter hunting at some later point in life. The difference in age-specific desertion rates among states is a critical part of the variation in the dynamics of the hunter population between states. Since all states have approximately the same rate of hunting natality (i.e., the number of new hunters entering the population appears to be a constant proportion of the number of active hunters), then the cause for changes in a hunter population lies mainly in differences between desertion rates.

While a significant amount of "noise" exists in the desertion data generated in Part II of this study due to the reentry phenomenon, the markedly higher rate of early desertion from states with lower overall hunting participation rates may portend significant changes in future hunting populations in those states. The data indicate no significant differences in dropout rates for older HUNTAGE classes. It would therefore appear that all states are somewhat similar with respect to the relative stability of the "mature" hunter population. Despite desertion rates that are higher than those recorded in the "immature" cohort, there appears to be little difference between the states in dropout rates among those who have hunted at least 15 years.

However, higher desertion rates among younger hunters in some states would ultimately affect the total hunting population in that state. This is because the youngest cohort of hunters represents the highest absolute number of

hunters (see age structure data). It is important to note that differences in the desertion rates in younger age classes of hunters have a greater absolute effect than the same percent differences in desertion in the higher age cohorts of hunters, since there are more younger hunters than individuals in older age cohorts of the hunter population. A desertion rate of 0.30 would mean 300 dropouts if the cohort size was 1000 hunters, whereas the same 0.30 dropout rate would mean a loss of only 30 hunters in a cohort of 100. This differential loss of individual hunters would occur in that portion of the hunter population that will mature to replace those active hunters who have hunted more than 15 years. The apparently higher rate of desertion among young hunters in states with low participation rates might ultimately result in a decline in the absolute number of total hunters in that state. Then, since number of new hunters is closely correlated with the number of total hunters, one can expect a decline in the number of new hunters, ultimately causing a further decline in the total hunter population in these states.

### Part III - ANALYSIS OF ADDITIONAL PARAMETERS OF HUNTER POPULATION DYNAMICS

#### Age Structure of the Active Hunter Population

Data for the age structure of the current hunter population are available from the 1980 National Survey report. However, these data make comparisons of the relative number of individuals in each age class difficult, due to the uneven age intervals used in presenting the data. In Table 12 of the National Report (p. 52) we find the highest proportion of hunters in the 25-34 age class, and a lower proportion of all hunters in the younger age classes. Yet the 25-34 interval spans 10 years and the younger intervals encompass only 7 years (18-24) and 2 years (16-17). When constant age intervals are used, as we presented in Table 6, we find that, in the United States, there are more 15-19 year old hunters than any other age class. This point is important, since the findings of previous studies of hunter populations (See Schole 1973), many of which report mean or median age of hunters without data on age distribution using constant age intervals, have left an impression in the literature that there are more hunters in their 30's than in younger age classes. The 1980 National Survey data indicate that this is not the case, and support the earlier findings of Applegate (1977) who argues that younger hunters are more numerous than older hunters.

Little variation was found in the modal age class distribution of hunters when comparing states with low, medium, and high rates of hunter participation (Table 8). The modal age class for active hunters in almost all states was 20-29 years of age. We believe, however that if sufficient data were available to examine age frequency in 5 year intervals, then the modal class for many states would be the 15-19 year interval, as we found for the national sample. Since many individuals do not begin hunting before age 14 or 15, the

Table 8. Modal Age classes of active hunters for the 50 states, displayed according to 3 levels of hunting participation. Data are number of states.

| <u>PARTICIPATION LEVEL</u> | <u>A G E C L A S S</u> |              |              |
|----------------------------|------------------------|--------------|--------------|
|                            | <u>10-19</u>           | <u>20-29</u> | <u>30-39</u> |
| LOW                        | 1                      | 9            | 1            |
| MEDIUM                     | 2                      | 23           | 0            |
| HIGH                       | 2                      | 10           | 2            |
| All States                 | 5                      | 42           | 3            |

10-19 age intervals in the state by state analysis presents a biased representation of the actual age structure of hunters.

#### Age Structure of New Hunters

In light of the importance of new hunters in understanding hunter population dynamics, additional information was generated to characterize the age structure of new hunters. Questions from the screening questionnaire were used to identify new hunters -- those that had hunted for the first time in 1980 -- and to determine the age of these new participants.

A total of 2677 new hunters were interviewed during the detailed phase of the survey (see Table 9). The state with the smallest sample of new hunters was Rhode Island with 13. Texas had the highest sample of new hunters with 107. The mean number of new hunters interviewed in each state was 54.

Two measures were used to characterize variations in the age structure of new hunters. First, the median age of new hunters was used as a measure of central tendency. Because of the skewed distribution of new hunter's ages, the median age was believed to be a better statistic than the mean. Second, the proportion of new hunters recruited before age 20 was determined. Previous studies (Schole 1973) have used this measure as a summary of age structure of new hunters, and more recently, Applegate (1982) using the same measure of age distribution of new hunters, provided data from New Jersey suggesting that shifts in the age structure of recruits toward older age classes may be occurring.

The median age of new hunters for all states surveyed was 18 years. The lowest median age was 13 years for Iowa, and Alaska and Colorado had the highest median age of new recruits at 25 years. Fifty-eight percent of the new hunters in all states were recruited by the age of 20 years. The states

Table 9. State-by-State data for selected characteristics of hunter population dynamics

| State          | % of active hunters with discontinuous hunting experience | % of new Hunters | Median age of new Hunters | % of new hunters recruited before age 20 |
|----------------|-----------------------------------------------------------|------------------|---------------------------|------------------------------------------|
| Alabama        | 21.8                                                      | 64               | 15                        | 67                                       |
| Alaska         | 38.2                                                      | 68               | 23                        | 34                                       |
| Arizona        | 37.5                                                      | 55               | 18                        | 56                                       |
| Arkansas       | 27.1                                                      | 66               | 13                        | 73                                       |
| California     | 34.1                                                      | 36               | 21                        | 47                                       |
| Colorado       | 36.2                                                      | 57               | 23                        | 42                                       |
| Connecticut    | 19.1                                                      | 19               | 20                        | 42                                       |
| Delaware       | 28.6                                                      | 30               | 18                        | 60                                       |
| Florida        | 31.4                                                      | 45               | 16                        | 62                                       |
| Georgia        | 27.3                                                      | 79               | 20                        | 46                                       |
| Hawaii         | 29.6                                                      | 18               | 24                        | 39                                       |
| Idaho          | 31.7                                                      | 80               | 16                        | 60                                       |
| Illinois       | 28.3                                                      | 30               | 19                        | 57                                       |
| Indiana        | 25.1                                                      | 44               | 19                        | 52                                       |
| Iowa           | 27.3                                                      | 69               | 13                        | 77                                       |
| Kansas         | 30.6                                                      | 41               | 18                        | 51                                       |
| Kentucky       | 21.3                                                      | 47               | 17                        | 64                                       |
| Louisiana      | 23.3                                                      | 64               | 16                        | 63                                       |
| Maine          | 30.4                                                      | 63               | 16                        | 64                                       |
| Maryland       | 32.4                                                      | 25               | 20                        | 44                                       |
| Massachusetts  | 22.4                                                      | 37               | 20                        | 46                                       |
| Michigan       | 32.0                                                      | 72               | 16                        | 68                                       |
| Minnesota      | 28.7                                                      | 83               | 16                        | 63                                       |
| Mississippi    | 19.5                                                      | 62               | 19                        | 52                                       |
| Missouri       | 23.1                                                      | 63               | 20                        | 38                                       |
| Montana        | 33.4                                                      | 91               | 19                        | 51                                       |
| Nebraska       | 26.8                                                      | 59               | 18                        | 58                                       |
| Nevada         | 38.6                                                      | 39               | 16                        | 62                                       |
| New Hampshire  | 30.4                                                      | 22               | 15                        | 77                                       |
| New Jersey     | 28.3                                                      | 25               | 15                        | 68                                       |
| New Mexico     | 38.9                                                      | 56               | 18                        | 57                                       |
| New York       | 28.3                                                      | 37               | 18                        | 60                                       |
| North Carolina | 22.3                                                      | 51               | 16                        | 69                                       |
| North Dakota   | 31.2                                                      | 54               | 20                        | 50                                       |
| Ohio           | 25.0                                                      | 30               | 20                        | 50                                       |
| Oklahoma       | 24.9                                                      | 57               | 21                        | 47                                       |
| Oregon         | 32.8                                                      | 49               | 15                        | 59                                       |
| Pennsylvania   | 25.8                                                      | 76               | 16                        | 68                                       |
| Rhode Island   | 18.4                                                      | 13               | 16                        | 62                                       |
| South Carolina | 21.0                                                      | 31               | 16                        | 65                                       |
| South Dakota   | 27.8                                                      | 84               | 17                        | 60                                       |
| Tennessee      | 21.7                                                      | 51               | 17                        | 67                                       |
| Texas          | 32.5                                                      | 107              | 19                        | 51                                       |
| Utah           | 38.7                                                      | 65               | 18                        | 55                                       |
| Vermont        | 26.5                                                      | 65               | 15                        | 75                                       |
| Virginia       | 28.1                                                      | 55               | 19                        | 51                                       |
| Washington     | 22.7                                                      | 45               | 16                        | 58                                       |
| West Virginia  | 40.4                                                      | 63               | 16                        | 65                                       |
| Wisconsin      | 27.3                                                      | 70               | 15                        | 67                                       |
| Wyoming        | 32.2                                                      | 65               | 20                        | 45                                       |
| All States     | 27.7                                                      | 2677             | 18                        | 58                                       |

with the smallest percentage of new hunters recruited by age 20 was Alaska (34 percent). Iowa and New Hampshire had the highest percentage of new hunters below the age of 20 years; 77 percent.

Variation in the age structure of new hunters was not related to variations in hunter participation rates ( $X^2 = 0.84$ ) or geographic region ( $X^2 = 10.05$ ) (See Table 10). Measures of the urbanness of individual states were also not related to variations in recruitment age. Using percent of a state's population living in an SMSA as a measure of the urban character of a given state, correlations of  $r = 0.16$  and  $r = 0.15$  were found between this variable and the percent of new hunters under age 20 and median age of recruits, respectively.

Factors related to variations in the age structure of new hunters (see Table 11) included the percent of retirees in the state population, income, education, and the percent of Caucasians in the state population. The income and education variables probably reflect affluence of the state population, with greater affluence associated with higher numbers of older recruits. Apparently, affluence increases the probability that a person will enter hunting later in life. We are not certain why higher proportions of retirees or whites in a state's population should be correlated with a younger age structure of new hunters.

A third variable that was significantly related to variation in the age structure of new hunters was desertion rates (see Table 10). When states were aggregated according to 3 levels of desertion, there were strong differences ( $X^2 = 19.22$ ,  $p < 0.001$ ) in the percentage of new hunters under age 20. Low desertion states had 63% of new hunters under age 20, whereas medium and high desertion states had 54% and 44%, respectively. This relationship is

Table 10. Variation in age structure of new hunters related to differences in participation rates, desertion rates, and geographic region.

| <u>PARTICIPATION</u>     | <u>n states</u> | <u>n new hunters</u> | <u>n &lt;age 20</u> | <u>% of hunters &lt;age 20</u> | <u>median age of new hunters</u> |
|--------------------------|-----------------|----------------------|---------------------|--------------------------------|----------------------------------|
| Low                      | 11              | 315                  | 170                 | 54.0                           | 18.8                             |
| Medium                   | 25              | 1401                 | 817                 | 58.3                           | 17.6                             |
| High                     | 14              | 961                  | 553                 | 57.5                           | 17.6                             |
| <u>DESEPTION</u>         |                 |                      |                     |                                |                                  |
| Low                      | 21              | 1306                 | 823                 | 63.0                           | 16.5                             |
| Medium                   | 22              | 1128                 | 610                 | 54.1                           | 18.9                             |
| High                     | 7               | 243                  | 107                 | 44.0                           | 18.7                             |
| <u>GEOGRAPHIC REGION</u> |                 |                      |                     |                                |                                  |
| New England              | 6               | 219                  | 139                 | 63.5                           | 17.0                             |
| Middle Atlantic          | 4               | 168                  | 109                 | 64.9                           | 16.8                             |
| East North Central       | 5               | 246                  | 151                 | 63.0                           | 17.8                             |
| West North Central       | 7               | 453                  | 261                 | 57.6                           | 17.4                             |
| South Atlantic           | 7               | 349                  | 199                 | 57.0                           | 17.6                             |
| East South Central       | 4               | 224                  | 139                 | 62.1                           | 17.0                             |
| West South Central       | 4               | 294                  | 170                 | 57.8                           | 17.8                             |
| Mountain                 | 8               | 508                  | 270                 | 53.1                           | 18.6                             |
| Pacific                  | 5               | 216                  | 102                 | 47.2                           | 20.2                             |

Table 11. Simple correlation coefficients of variables significantly correlated ( $p < 0.05$ ) with median age of new hunters and percentage of new hunters recruited before age 20.

| <u>Response Variable</u>                          | <u>Independent Variable</u>          | <u>r</u> |
|---------------------------------------------------|--------------------------------------|----------|
| Median age of new hunters                         | Percent retirees in state population | - 0.55   |
| "                                                 | Education                            | + 0.49   |
| "                                                 | Percent whites in state population   | - 0.44   |
| "                                                 | Income                               | + 0.42   |
| Percentage of new hunters recruited before age 20 | Education                            | - 0.49   |
| "                                                 | Percent retirees in state population | + 0.47   |
| "                                                 | Income                               | - 0.39   |
| "                                                 | Percent whites in state population   | + 0.36   |

consistent with the findings of Applegate (1977) who showed higher desertion rates in New Jersey among hunters who began hunting later in life. This relationship suggests that older new hunters may have a very marginal commitment to hunting, participating infrequently or perhaps hunting, in some cases, only once. This may especially be true of more affluent participants, who may participate when time permits or for the opportunity to try something new.

The age structure of new hunters reported in this study is very different from that recorded in most of the existing literature. Most studies that have addressed age structure of new hunters have reported that 90% or more of active hunters began hunting before age 20 (Schole 1973). Applegate (1977), however, in his study of active and inactive hunters, reported a significantly higher proportion of older recruits and suggested that differences between his and other studies resulted from the populations sampled, since older recruits tended toward a higher desertion rate and were therefore probably underrepresented in studies of active hunters. More recently, Applegate (1982) provided data to show that there has been a time-related shift toward an increasing percentage of older recruits in New Jersey. The present data are more closely related to those of Applegate rather than earlier studies, since we are only dealing with individuals who began hunting in 1980, and the impact of differential desertion rates is not a problem. In fact, Applegate's 1977 figure of 70 percent recruited in New Jersey before age 20 is almost identical with that found for New Jersey in the 1980 National Survey - 68 percent. Data from this study therefore strongly suggest that the older age structure of new hunters is much more common throughout the country than previously reported, and may not be related to the urban character of the

state as suggested by Applegate (1982). However, the significant correlations between age structure of new hunters, affluence, and desertion rates suggest that even though this older segment of the new hunter cohort may be greater than previously believed, the overall impact of older recruits on the level of hunter populations may be small.

### Reentry

The problem of desertion and reentry was not addressed directly in the 1980 National Survey, and the impact of this phenomenon on our overall understanding of hunter population dynamics may not be large. In an attempt to assess the magnitude of desertion and reentry into the hunting ranks, three questions from the detailed questionnaire were used. For each respondent, the age at which he or she began hunting was subtracted from the age of the respondent to create the variable HUNTAGE. This value was then compared to the number of years that the respondent had reported hunting during the detailed interview of the survey (question 47b; detailed questionnaire). If the hunter's recall was perfect, and a hunter had hunted every year since beginning, then HUNTAGE minus the number of years he or she reported hunting would equal zero. If the difference between these two variables was plus or minus one year, then it was assumed that the individual was still a continuous hunter, to allow for difference between the date of the respondent's birthday and the timing of the hunting season. Sixty-five percent (65.3) of all respondents in the National Survey were classified as continuous by this definition.

If the difference between HUNTAGE and years of reported experience was less than -1 years, this was assumed to be noise in the data, since an individual cannot hunt for more years than the difference between his or her age and the

age at which they started to hunt. This accounted for 3.7 percent of the data.

If the difference between HUNTAGE and the years of reported hunting was greater than one, it was assumed that this was the result of discontinuous hunting experience - the hunter had dropped out for at least one year and then returned to hunting. This group accounted for 27.7 percent of the sample of active hunters. With this very course method of assessing the magnitude of reentrants, we estimated that about one quarter of the active hunters in the nation have had discontinuous hunting experiences.

To further evaluate reentry, rates of reentry were compared between states. All states had a mean reentry rate of 27.7 percent (Table 9). Washington had the highest reentry rate of 40.4 percent, while Rhode Island had the lowest rate in the nation, 18.4 percent.

The most interesting differences in reentry were among geographic regions of the country (see Table 12). Western regions (Pacific and West South Central census regions) had a relatively high proportion of reentrants compared to other regions of the country. The reentrant rates for these regions were 35.2 and 33.4 percent, respectively. All other regions had values for reentrants that were below the mean for the country. The East South Central region had the lowest reentrant rate with 20.3 percent. Differences in geographic regions were significant at the  $p < 0.001$  level ( $X^2 = 88.9$ ).

Smaller differences in reentrant rates were related to levels of participation and desertion in the states. There was a slightly higher proportion of reentrants in states with higher desertion rates ( $X^2 = 13.5$ ,  $p < 0.01$ ). This finding provides further evidence that some proportion of the reported desertion in these states can be accounted for by reentrants.

Table 12. Variations in proportion of reentrants among active hunters related to differences in participation, desertion, and geographic region.

|                          | <u>n hunters</u> | <u>reentrants</u> | <u>% reentrants</u> |
|--------------------------|------------------|-------------------|---------------------|
| <u>PARTICIPATION</u>     |                  |                   |                     |
| Low                      | 1464             | 434               | 29.6                |
| Medium                   | 7765             | 2026              | 26.1                |
| High                     | 5643             | 1661              | 29.5                |
| <u>DESERTION</u>         |                  |                   |                     |
| Low                      | 7860             | 2066              | 26.3                |
| Medium                   | 5721             | 1691              | 29.6                |
| High                     | 1151             | 334               | 29.0                |
| <u>GEOGRAPHIC REGION</u> |                  |                   |                     |
| New England              | 1296             | 338               | 26.1                |
| Middle Atlantic          | 1013             | 263               | 26.0                |
| East North Central       | 1751             | 473               | 27.0                |
| West North Central       | 2421             | 660               | 27.3                |
| South Atlantic           | 1803             | 446               | 24.7                |
| East South Central       | 1327             | 269               | 20.3                |
| West South Central       | 2514             | 840               | 33.4                |
| Pacific                  | 1173             | 413               | 35.2                |
| All States               | 14872            | 4121              | 27.7                |

When comparing states based upon levels of hunting participation, states with medium levels of participation were found to have the lowest proportion of reentrants ( $X^2 = 15.5$ ,  $p < 0.01$ ). These data are summarized in table 12.

### SUMMARY & CONCLUSIONS

The purpose of this study was to identify factors associated with the recruitment of new hunters and the desertion of experienced hunters in the United States. In addition, factors related to age-specific desertion rates were evaluated, and age structure of active hunters and new hunters were examined.

Hunting is primarily a rural-oriented sport. It occurs in rural areas -- farms, forests, and wetlands -- and is, for the most part, a sport of rural residents. Our evaluation of factors related to recruitment and desertion of hunters added emphasis to the rural character of the sport of hunting. Hunter desertion among previously active hunters in the states was significantly and positively correlated with the percent of the state's population that resides in urban areas. The percent of individuals living in an SMSA (Standard Metropolitan Statistical Areas) was the strongest indicator of desertion identified. Though previous analyses have indicated that the population density of a given state may be correlated with hunter participation and desertion, this variable was found to be a less significant indicator of desertion than the percent of the population living in SMSA's. Other variables previously reported for studies of hunter desertion in specific states -- median income and education -- were also found to be positively correlated with desertion. These variables may be viewed as indicators of the affluence of a given state.

When a desertion model was constructed to characterize desertion, hunting license sales and the percent of hunters recruited by the age of 20, were negatively correlated with desertion. High values of these variables may be viewed as indicators of the stability of the existing hunting population, and

thus are not likely to be associated with high desertion rates.

It is interesting to note that management variables -- those that can be influenced by management action or policy -- were not significantly correlated with desertion. The amount of money spent on game management in a given state, the quantity of game birds stocked, and the deer hunter success rate, had no relationship to observed rates of desertion. In addition, there were no differences in rates of desertion when comparing states that had recently increased their hunting license costs during the year of the survey and those that had not.

Recruitment was evaluated in two ways. First, there was little difference in rates of recruitment between the states when computed as a percentage of the active hunter population. Apparently, recruitment measured in this form is relatively stable which indicates that a very important determinant of the number of new hunters in any state is the number of active hunters in that state. However, when recruitment was measured as a percentage of the population of a given state, the differences between states were dramatic.

Recruitment, in this sense, was found to be a function of the percent of active hunters in the state. Variables that were negatively correlated with recruitment were primarily related to the urban character of a state. The percent of the state population living in SMSA's, total state population, and state population density were all negatively correlated with recruitment. A model of hunter recruitment containing three variables -- percent of population in SMSA's (negatively correlated); percent of farm or forestland (positive); and cost of a license (negative) -- accounted for about 81 percent of the variation in the dependent variable.

In constructing life tables for the hunting populations of individual states

and regions of the U.S., an effort was made to assess the nature of age-specific desertion rates. Differences in desertion rates among states are a critical factor in determining the nature and extent of hunting participation in a given state in the future, since the rates of recruitment of new hunters (as a proportion of active hunters) were extremely similar between states.

Overall, juvenile mortality -- dropout among hunters who had hunted for only one to fifteen years -- was highest in states with low levels of hunter participation. In addition, northern and eastern states, when compared to other regions of the country, had higher desertion rates among younger hunters.

Fifty-eight percent of all new hunters had been recruited before the age of 20 years. The more affluent the state population -- as reflected by median income and education levels -- the older the age of new recruits in the hunter ranks. Overall, the age structure of new hunters was older than had been anticipated, leading to the general conclusion that the findings of Applegate's previous studies of New Jersey hunters may not be as unique to that state as previously hypothesized.

Discontinuous participation in hunting -- the tendency to participate for some number of years, dropout for at least a year, and then return -- was estimated to occur among one-quarter of the hunting population. As such, it is likely that a substantial portion of the reported desertion can be accounted for by temporary deserters who eventually reenter the hunter ranks.

Applegate (1977) previously used a contagion model to conceptualize observed behavior among members of the New Jersey hunter population. In general, hunting was characterized as a condition that was common to rural residents

and most often acquired early in one's life (i.e., before the age of 20). This condition was most often transmitted from father to son or from one adult relative to a youngster. Infection -- transmission of the affinity to hunt -- in this manner was more likely to be permanent than when transmission occurred at a later stage in the potential hunter's life. Hunters introduced to the sport later in life were more likely to be transient in their participation. Desertion from the hunter population was more likely to occur among older recruits. Those who engaged in the sport later in life were also more likely to be introduced to hunting by friends or peers, rather than an older relative. Others (Bouchard and Lerg (1977) and Langenau and Mellon (1980)) have described somewhat similar phenomenon in the hunter population of Michigan.

One objective of this study was to determine if this phenomena, the contagion model, was unique to New Jersey, or common to other regions of the country or the nation as a whole. It appears from the data described above, that this model may be more broadly applicable than previously anticipated.

The findings reinforce the notion that hunting is a rural-oriented sport, since the strongest indication of recruitment into hunting was the percent of the state population residing in an SMSA, a variable which characterizes the urban nature of an area. Where the percent of the state population residing in urban areas was high, hunter recruitment (expressed as a percentage of the general population) was found to be low. Other measures of urbanness -- state population density and the total state population -- were correlated similarly with low hunter recruitment rates. On the other hand, desertion from the hunter ranks was positively correlated with the percent of the state population in an SMSA. Management variables such as monies spent by the state

on wildlife management, the number of game birds stocked, and hunter success rates, had little relationship to hunter recruitment or desertion rates. The relationship between hunting license costs and recruitment was not strong.

As a percent of active hunters, there was little variation in hunter recruitment rates between states. The percent of active hunters in a given state was highly correlated with recruitment expressed as a percentage of the general population.

It appears then that the contagion model may be broadly applied to characterize the dynamic nature of the nation's hunter populations. Hunting may be viewed as a contagious phenomenon that is common among individuals residing in rural areas where association with other hunters is common. The tendency to hunt is normally transmitted from generation to generation, most often among males, through familial contact. An older relative is usually the primary source of infection. When transmitted in this manner, usually to individuals under age 20, the tendency to hunt is more or less permanent. Thus, a new individual "catches the bug" and is introduced into the hunting ranks.

There are other means by which the tendency to hunt can be transmitted. Individuals may be introduced into hunting by their peers, usually at a later age. When initiated in this manner, the tendency to hunt appears to be much less permanent. In fact, when introduced into hunting at a later age, or by peers, an individual is more likely to participate infrequently, dropping out of the hunter ranks, then returning at a later point or not at all. Individuals not affected before the age of 20 are more likely to be introduced to hunting by their peers, if at all.

It appears, then, that the rural environment is more conducive to maintenance

and transmission of hunting than is the urban situation. Be it proximity to natural resources, lifestyle, or the social conditions of a rural setting, it appears that this environment is likely to be a more important source of present and potential hunters than is the urban and urbanizing world. And if this is true, one must look primarily to future changes in the demographic character of the nation in order to understand the nature of the hunter population in years to come.

#### Research Recommendations

The results of this analysis emphasize the need to better understand what factors cause hunters to leave the sport. It appears that desertion has the greatest effect on the size and character of future hunting populations. With recruitment rates, as a percentage of active hunters, found to be approximately the same in all states, it will be the size of the hunter population that will determine the number of new initiates each year. If hunter retention increases, the number of new recruits will also increase.

Little is known about the nature and extent of desertion from the hunter ranks. Research should be directed toward determining when hunters leave the sport (i.e., age-dependent desertion) and why they desert.

The 1980 National Survey data provided some information about desertion, but the survey was not designed to gather the information needed to evaluate, in detail, hunter desertion. Information on desertion was gathered during the screening interview from an adult member of the household, for all other members of the household. The manner in which desertion information was gathered raises questions about its accuracy. However a one year recall period was used to attempt to increase the reliability of this information.

To gather more accurate information about hunter desertion, a brief interview

might be conducted with deserters identified by the screening questionnaire. One important question to be asked would be the age at which the individual began hunting, thus enabling the construction of a more accurate HUNTAGE life table. In light of the apparent importance of these individuals in shaping the hunter population, the information gleaned would be extremely valuable. Additional information on hunter desertion is needed to determine if there are factors affecting desertion which can be influenced by wildlife agencies. Urbanization is a phenomenon that will occur despite the concerns of wildlife managers. However, if desertion is influenced by license costs or access to huntable lands, managers can make policy changes that might help to curb declines in hunter numbers. Research should be directed toward identifying the variables that managers can influence, and the programs and policies that might be implemented. Finally, the effectiveness of policies intended to curb hunter desertion needs to be studied.

#### Management Implications

Fish and wildlife management, particularly in the states, has traditionally been funded by the receipts from the sale of fishing and hunting licenses. In addition, the numbers of licenses sold in each state has served as the basis for determining the allocations of federal funds to support state fish and wildlife management programs. More recently, income tax checkoff programs have evolved as a means of supporting expanded wildlife management programs, particularly for nongame.

As long as state wildlife management programs are dependent on hunting license sales for financial support, fluctuations in the hunter population will be a critical variable in wildlife program development. The findings of this analysis provide some insight into how potential changes in the hunter

population can be monitored and how they may be mollified.

The key factor which appears to foretell the future nature of hunter populations in a given state is the degree of urbanization in that state. The variable, percent SMSA -- the percent of the state population living in Standard Metropolitan Statistical Areas, as determined by the decennial census, appears to be the best predictor of initiation into and desertion from the hunter ranks. Twenty-one percent of the variation in desertion and 69 percent of the variation in hunter initiation rates, when measured as a percent of the total state population were accounted for by the percent of the population living in SMSA's. This variable is a much stronger correlate to initiation and desertion than state population density, or measures of the percent of the state area in urban vs. rural land, variables previously determined to be related to participation and desertion rates. Though this variable cannot be manipulated through management action, it is one that should be monitored to evaluate long-term trends in hunter populations.

Interestingly, hunter recruitment as a percent of the active hunter population in a state, did not vary significantly between states. It could be said that the reproductive rate, the rate of replacement, for a hunter population in a given state is constant. If this is true, then it would appear that efforts to reduce juvenile mortality; that is, the number of newly recruited hunters who drop out, would be more profitable than efforts to recruit new hunters to sustain a state's hunter population. As hunter retention increases, the number of new recruits should show a corresponding increase, since recruitment is a relatively constant percentage of the active hunter population. Programs designed to reduce young hunter desertion have been implemented in some states. They include the issuance of family or party licenses, father/son

permits, and provisions for special access to hunting areas for young hunters. The effectiveness of such programs in retaining young hunters needs to be evaluated.

Finally, it is apparent from this research that variations in the factors that influence initiation into and desertion from hunting will have more influence on the nature of future wildlife programs, as currently funded, than minor fluctuations in game populations or their environments. Wildlife management has traditionally emphasized the science of altering habitats to achieve desired levels of wildlife populations. Yet, the results of this study appear to indicate that changes in societal factors that biologists have no control over, most notably urbanization, are of equal or greater importance to the future of hunting than changes in variables that wildlife biologists can affect, such as game populations. If this is true, then wildlife managers need to become as knowledgeable about factors that influence hunter populations, as they are about the variables that affect wildlife.

To a large degree, social changes are inevitable, or at best, they are very difficult to influence. Rather than attempt to counter what may be inevitable, which would appear to be a slowly declining hunter population in urbanizing areas, it would behoove the wildlife profession to expand programs to meet the increasingly diverse needs of the public and thus broaden its base of financial support. In particular, urban populations, which constitute over 75 percent of the American public, represent a new and potentially significant source of support for wildlife programs. It is clear that new funding alternatives must be sought and diverse management programs developed, even if a basic change in the philosophical foundations of the profession are required.

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Appendix A - A summary of age-specific desertion statistics

ALABAMA

| <u>Hunter's Age</u> | <u>No. Active Hunters</u> | <u>% of all Hunters</u> | <u>No. Dropouts</u> | <u>Average annual dropout rate</u> |
|---------------------|---------------------------|-------------------------|---------------------|------------------------------------|
| <10                 | 21                        | 2.9                     | 1                   | 0.045                              |
| 10-19               | 180                       | 24.7                    | 15                  | 0.077                              |
| 20-29               | 161                       | 22.1                    | 23                  | 0.125                              |
| 30-39               | 151                       | 20.7                    | 28                  | 0.156                              |
| 40-49               | 92                        | 12.6                    | 13                  | 0.124                              |
| 50-59               | 76                        | 10.4                    | 6                   | 0.073                              |
| 60-69               | 37                        | 5.1                     | 8                   | 0.178                              |
| 70-79               | <u>10</u>                 | <u>1.4</u>              | <u>1</u>            | <u>0.091</u>                       |
|                     | 728                       | 100                     | 95                  | 0.115                              |

Life Table based on age of dropouts:

| <u>Age Class</u> | <u><math>l_x</math></u> | <u><math>d_x</math></u> | <u><math>q_x</math></u> | <u><math>e_x</math></u> |
|------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| <10              | 1000                    | 11                      | 0.011                   | 34.7                    |
| 10-19            | 989                     | 158                     | 0.160                   | 25.0                    |
| 20-29            | 831                     | 242                     | 0.291                   | 18.8                    |
| 30-39            | 589                     | 294                     | 0.499                   | 14.5                    |
| 40-49            | 295                     | 137                     | 0.464                   | 14.0                    |
| 50-59            | 158                     | 63                      | 0.399                   | 11.8                    |
| 60-69            | 95                      | 84                      | 0.884                   | 6.2                     |
| 70-79            | 11                      | 11                      | 1.000                   | 5.0                     |

Life Table based on age structure of active hunters:

| <u>Age Class</u> | <u><math>l_x</math></u> | <u><math>d_x</math></u> | <u><math>q_x</math></u> | <u><math>e_x</math></u> |
|------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| <10              | *                       | *                       | *                       | *                       |
| 10-19            | 1000                    | 237                     | 0.237                   | 23.1                    |
| 20-29            | 763                     | 309                     | 0.405                   | 18.7                    |
| 30-39            | 454                     | 72                      | 0.159                   | 18.0                    |
| 40-49            | 382                     | 227                     | 0.594                   | 10.4                    |
| 50-59            | 155                     | 103                     | 0.665                   | 8.4                     |
| 60-69            | 52                      | 52                      | 1.000                   | 5.0                     |

Appendix A - A summary of age-specific desertion statistics

ALASKA

| <u>Hunter's Age</u> | <u>No. Active Hunters</u> | <u>% of all Hunters</u> | <u>No. Dropouts</u> | <u>Average annual dropout rate</u> |
|---------------------|---------------------------|-------------------------|---------------------|------------------------------------|
| <10                 | 19                        | 2.8                     | 3                   | 0.136                              |
| 10-19               | 102                       | 14.8                    | 23                  | 0.184                              |
| 20-29               | 196                       | 28.5                    | 47                  | 0.193                              |
| 30-39               | 202                       | 29.4                    | 67                  | 0.249                              |
| 40-49               | 92                        | 13.4                    | 29                  | 0.240                              |
| 50-59               | 49                        | 7.1                     | 14                  | 0.222                              |
| 60-69               | 26                        | 3.8                     | 1                   | 0.037                              |
| 70-79               | 1                         | 0.1                     | 2                   | 0.667                              |
| 80-89               | <u>0</u>                  | <u>0</u>                | <u>1</u>            | <u>1.000</u>                       |
|                     | 687                       | 100                     | 187                 | 0.214                              |

Life Table based on age of dropouts:

| <u>Age Class</u> | <u><math>l_x</math></u> | <u><math>d_x</math></u> | <u><math>q_x</math></u> | <u><math>e_x</math></u> |
|------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| <10              | 1000                    | 16                      | 0.016                   | 33.5                    |
| 10-19            | 984                     | 123                     | 0.125                   | 24.0                    |
| 20-29            | 861                     | 251                     | 0.292                   | 16.7                    |
| 30-39            | 610                     | 359                     | 0.589                   | 11.5                    |
| 40-49            | 251                     | 155                     | 0.618                   | 10.7                    |
| 50-59            | 96                      | 75                      | 0.781                   | 9.8                     |
| 60-69            | 21                      | 5                       | 0.238                   | 15.9                    |
| 70-79            | 16                      | 11                      | 0.688                   | 8.8                     |
| 80-89            | 5                       | 5                       | 1.000                   | 5.0                     |

Life Table based on age structure of active hunters:

| <u>Age Class</u> | <u><math>l_x</math></u> | <u><math>d_x</math></u> | <u><math>q_x</math></u> | <u><math>e_x</math></u> |
|------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| <10              | *                       | *                       | *                       | *                       |
| 10-19            | 1000                    | 225                     | 0.225                   | 19.5                    |
| 20-29            | 775                     | 417                     | 0.538                   | 13.7                    |
| 30-39            | 358                     | 150                     | 0.419                   | 13.8                    |
| 40-49            | 208                     | 100                     | 0.481                   | 10.2                    |
| 50-59            | 108                     | 108                     | 1.000                   | 5.0                     |
| 60-69            |                         |                         |                         |                         |

Appendix A - A summary of age-specific desertion statistics

ARIZONA

| <u>Hunter's Age</u> | <u>No. Active Hunters</u> | <u>% of all Hunters</u> | <u>No. Dropouts</u> | <u>Average annual dropout rate</u> |
|---------------------|---------------------------|-------------------------|---------------------|------------------------------------|
| <10                 | 7                         | 1.6                     | 0                   | 0.0                                |
| 10-19               | 104                       | 23.8                    | 19                  | 0.154                              |
| 20-29               | 94                        | 21.5                    | 24                  | 0.203                              |
| 30-39               | 101                       | 23.1                    | 12                  | 0.106                              |
| 40-49               | 65                        | 14.9                    | 15                  | 0.188                              |
| 50-59               | 38                        | 8.7                     | 9                   | 0.191                              |
| 60-69               | 21                        | 4.8                     | 3                   | 0.125                              |
| 70-79               | 6                         | 1.4                     | 3                   | 0.333                              |
| 80-89               | <u>1</u>                  | <u>0.2</u>              | <u>0</u>            | <u>0.0</u>                         |
|                     | 437                       | 100                     | 85                  | 0.163                              |

Life Table based on age of dropouts:

| <u>Age Class</u> | <u><math>l_x</math></u> | <u><math>d_x</math></u> | <u><math>q_x</math></u> | <u><math>e_x</math></u> |
|------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| <10              | 1000                    | 0                       | 0.0                     | 34.0                    |
| 10-19            | 1000                    | 224                     | 0.224                   | 24.0                    |
| 20-29            | 776                     | 283                     | 0.365                   | 19.5                    |
| 30-39            | 493                     | 141                     | 0.286                   | 17.9                    |
| 40-49            | 352                     | 176                     | 0.500                   | 13.0                    |
| 50-59            | 176                     | 106                     | 0.602                   | 11.0                    |
| 60-69            | 70                      | 35                      | 0.500                   | 10.1                    |
| 70-79            | 35                      | 35                      | 1.000                   | 5.0                     |
| 80-89            |                         |                         |                         |                         |

Life Table based on age structure of active hunters:

| <u>Age Class</u> | <u><math>l_x</math></u> | <u><math>d_x</math></u> | <u><math>q_x</math></u> | <u><math>e_x</math></u> |
|------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| <10              | *                       | *                       | *                       | *                       |
| 10-19            | 1000                    | 379                     | 0.379                   | 22.1                    |
| 20-29            | 621                     | 86                      | 0.138                   | 22.5                    |
| 30-39            | 535                     | 225                     | 0.421                   | 15.3                    |
| 40-49            | 310                     | 155                     | 0.500                   | 12.8                    |
| 50-59            | 155                     | 86                      | 0.555                   | 10.6                    |
| 60-69            | 69                      | 52                      | 0.754                   | 7.5                     |
| 70-79            | 17                      | 17                      | 1.000                   | 5.0                     |

Appendix A - A summary of age-specific desertion statistics

ARKANSAS

| <u>Hunter's Age</u> | <u>No. Active Hunters</u> | <u>% of all Hunters</u> | <u>No. Dropouts</u> | <u>Average annual dropout rate</u> |
|---------------------|---------------------------|-------------------------|---------------------|------------------------------------|
| <10                 | 17                        | 2.0                     | 5                   | 0.227                              |
| 10-19               | 194                       | 22.2                    | 18                  | 0.085                              |
| 20-29               | 187                       | 21.5                    | 34                  | 0.154                              |
| 30-39               | 184                       | 21.1                    | 28                  | 0.132                              |
| 40-49               | 92                        | 10.6                    | 18                  | 0.164                              |
| 50-59               | 93                        | 10.7                    | 11                  | 0.106                              |
| 60-69               | 77                        | 8.8                     | 7                   | 0.083                              |
| 70-79               | 24                        | 2.8                     | 4                   | 0.143                              |
| 80-89               | <u>3</u>                  | <u>0.3</u>              | <u>3</u>            | <u>0.500</u>                       |
|                     | 871                       | 100                     | 128                 | 0.128                              |

Life Table based on age of dropouts:

| <u>Age Class</u> | <u>l<sub>x</sub></u> | <u>d<sub>x</sub></u> | <u>q<sub>x</sub></u> | <u>e<sub>x</sub></u> |
|------------------|----------------------|----------------------|----------------------|----------------------|
| <10              | 1000                 | 39                   | 0.039                | 36.0                 |
| 10-19            | 961                  | 141                  | 0.147                | 26.7                 |
| 20-29            | 820                  | 265                  | 0.323                | 20.5                 |
| 30-39            | 555                  | 219                  | 0.395                | 17.9                 |
| 40-49            | 336                  | 141                  | 0.420                | 16.3                 |
| 50-59            | 195                  | 86                   | 0.441                | 14.5                 |
| 60-69            | 109                  | 55                   | 0.505                | 12.0                 |
| 70-79            | 54                   | 31                   | 0.574                | 9.2                  |
| 80-89            | 23                   | 23                   | 1.000                | 5.0                  |

Life Table based on age structure of active hunters:

| <u>Age Class</u> | <u>l<sub>x</sub></u> | <u>d<sub>x</sub></u> | <u>q<sub>x</sub></u> | <u>e<sub>x</sub></u> |
|------------------|----------------------|----------------------|----------------------|----------------------|
| <10              | *                    | *                    | *                    | *                    |
| 10-19            | 1000                 | 190                  | 0.190                | 25.9                 |
| 20-29            | 810                  | 281                  | 0.347                | 20.8                 |
| 30-39            | 529                  | 116                  | 0.219                | 19.1                 |
| 40-49            | 413                  | 140                  | 0.339                | 13.1                 |
| 50-59            | 273                  | 231                  | 0.846                | 7.2                  |
| 60-69            | 42                   | 25                   | 0.595                | 9.3                  |
| 70-79            | 17                   | 17                   | 1.000                | 5.0                  |

Appendix A - A summary of age-specific desertion statistics

CALIFORNIA

| <u>Hunter's Age</u> | <u>No. Active Hunters</u> | <u>% of all Hunters</u> | <u>No. Dropouts</u> | <u>Average annual dropout rate</u> |
|---------------------|---------------------------|-------------------------|---------------------|------------------------------------|
| <10                 | 5                         | 1.2                     | 3                   | 0.375                              |
| 10-19               | 77                        | 18.4                    | 10                  | 0.115                              |
| 20-29               | 127                       | 30.4                    | 37                  | 0.226                              |
| 30-39               | 101                       | 24.2                    | 37                  | 0.268                              |
| 40-49               | 56                        | 13.4                    | 15                  | 0.211                              |
| 50-59               | 24                        | 5.7                     | 13                  | 0.351                              |
| 60-69               | 22                        | 5.3                     | 10                  | 0.313                              |
| 70-79               | 5                         | 1.2                     | 4                   | 0.444                              |
| 80-89               | <u>1</u>                  | <u>0.2</u>              | <u>0</u>            | <u>0.000</u>                       |
|                     | 418                       | 100                     | 129                 | 0.236                              |

Life Table based on age of dropouts:

| <u>Age Class</u> | <u>l<sub>x</sub></u> | <u>d<sub>x</sub></u> | <u>q<sub>x</sub></u> | <u>e<sub>x</sub></u> |
|------------------|----------------------|----------------------|----------------------|----------------------|
| <10              | 1000                 | 23                   | 0.023                | 36.6                 |
| 10-19            | 977                  | 78                   | 0.080                | 27.4                 |
| 20-29            | 899                  | 286                  | 0.318                | 19.3                 |
| 30-39            | 613                  | 287                  | 0.468                | 16.0                 |
| 40-49            | 326                  | 116                  | 0.356                | 15.7                 |
| 50-59            | 210                  | 101                  | 0.481                | 11.6                 |
| 60-69            | 109                  | 78                   | 0.716                | 7.7                  |
| 70-79            | 31                   | 31                   | 1.000                | 5.0                  |

Life Table based on age structure of active hunters:

| <u>Age Class</u> | <u>l<sub>x</sub></u> | <u>d<sub>x</sub></u> | <u>q<sub>x</sub></u> | <u>e<sub>x</sub></u> |
|------------------|----------------------|----------------------|----------------------|----------------------|
| <10              | 1000                 | 186                  | 0.186                | 27.8                 |
| 10-19            | 814                  | 169                  | 0.208                | 23.0                 |
| 20-29            | 645                  | 203                  | 0.315                | 17.7                 |
| 30-39            | 442                  | 255                  | 0.577                | 13.5                 |
| 40-49            | 187                  | 68                   | 0.364                | 15.0                 |
| 50-59            | 119                  | 68                   | 0.571                | 10.8                 |
| 60-69            | 51                   | 34                   | 0.667                | 8.4                  |
| 70-79            | 17                   | 17                   | 1.000                | 5.0                  |

Appendix A - A summary of age-specific desertion statistics

COLORADO

| <u>Hunter's Age</u> | <u>No. Active Hunters</u> | <u>% of all Hunters</u> | <u>No. Dropouts</u> | <u>Average annual dropout rate</u> |
|---------------------|---------------------------|-------------------------|---------------------|------------------------------------|
| <10                 | 4                         | 0.7                     | 0                   | 0.000                              |
| 10-19               | 100                       | 17.0                    | 12                  | 0.107                              |
| 20-29               | 154                       | 26.2                    | 30                  | 0.163                              |
| 30-39               | 151                       | 25.7                    | 24                  | 0.137                              |
| 40-49               | 85                        | 14.5                    | 17                  | 0.167                              |
| 50-59               | 53                        | 9.0                     | 14                  | 0.209                              |
| 60-69               | 34                        | 5.8                     | 4                   | 0.105                              |
| 70-79               | 6                         | 1.0                     | 1                   | 0.143                              |
| 80-89               | <u>1</u>                  | <u>0.2</u>              | <u>0</u>            | <u>0.000</u>                       |
|                     | 588                       | 100                     | 102                 | 0.143                              |

Life Table based on age of dropouts:

| <u>Age Class</u> | <u><math>l_x</math></u> | <u><math>d_x</math></u> | <u><math>q_x</math></u> | <u><math>e_x</math></u> |
|------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| <10              | 1000                    | 0                       | 0.000                   | 35.7                    |
| 10-19            | 1000                    | 118                     | 0.118                   | 25.7                    |
| 20-29            | 882                     | 294                     | 0.333                   | 18.5                    |
| 30-39            | 588                     | 235                     | 0.400                   | 15.2                    |
| 40-49            | 353                     | 167                     | 0.473                   | 12.0                    |
| 50-59            | 186                     | 137                     | 0.737                   | 8.2                     |
| 60-69            | 49                      | 39                      | 0.796                   | 7.1                     |
| 70-79            | 10                      | 10                      | 1.000                   | 5.0                     |

Life Table based on age structure of active hunters:

| <u>Age Class</u> | <u><math>l_x</math></u> | <u><math>d_x</math></u> | <u><math>q_x</math></u> | <u><math>e_x</math></u> |
|------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| <10              | *                       | *                       | *                       | *                       |
| 10-19            | 1000                    | 176                     | 0.176                   | 23.1                    |
| 20-29            | 824                     | 311                     | 0.376                   | 17.0                    |
| 30-39            | 514                     | 257                     | 0.500                   | 14.2                    |
| 40-49            | 257                     | 95                      | 0.370                   | 13.4                    |
| 50-59            | 162                     | 108                     | 0.667                   | 8.3                     |
| 60-69            | 54                      | 54                      | 1.000                   | 5.0                     |

Appendix A - A summary of age-specific desertion statistics

CONNECTICUT

| <u>Hunter's Age</u> | <u>No. Active Hunters</u> | <u>% of all Hunters</u> | <u>No. Dropouts</u> | <u>Average annual dropout rate</u> |
|---------------------|---------------------------|-------------------------|---------------------|------------------------------------|
| <10                 | 2                         | 1.1                     | 0                   | 0.000                              |
| 10-19               | 32                        | 18.0                    | 2                   | 0.059                              |
| 20-29               | 49                        | 27.5                    | 9                   | 0.155                              |
| 30-39               | 40                        | 22.5                    | 10                  | 0.200                              |
| 40-49               | 26                        | 14.6                    | 6                   | 0.188                              |
| 50-59               | 22                        | 12.4                    | 7                   | 0.291                              |
| 60-69               | 4                         | 2.2                     | 3                   | 0.429                              |
| 70-79               | 2                         | 1.1                     | 3                   | 0.600                              |
| 80-89               | <u>1</u>                  | <u>0.6</u>              | <u>0</u>            | <u>0.000</u>                       |
|                     | 178                       | 100                     | 40                  | 0.183                              |

Life Table based on age of dropouts:

| <u>Age Class</u> | <u>lx</u> | <u>dx</u> | <u>qx</u> | <u>ex</u> |
|------------------|-----------|-----------|-----------|-----------|
| <10              | 1000      | 0         | 0.000     | 42.0      |
| 10-19            | 1000      | 50        | 0.050     | 32.0      |
| 20-29            | 950       | 225       | 0.237     | 23.4      |
| 30-39            | 725       | 250       | 0.345     | 19.2      |
| 40-49            | 475       | 150       | 0.316     | 16.6      |
| 50-59            | 325       | 175       | 0.538     | 12.0      |
| 60-69            | 150       | 75        | 0.500     | 10.1      |
| 70-79            | 75        | 75        | 1.000     | 5.0       |

Life Table based on age structure of active hunters:

| <u>Age Class</u> | <u>lx</u> | <u>dx</u> | <u>qx</u> | <u>ex</u> |
|------------------|-----------|-----------|-----------|-----------|
| <10              | 1000      | 38        | 0.038     | 31.6      |
| 10-19            | 962       | 38        | 0.040     | 22.6      |
| 20-29            | 924       | 424       | 0.459     | 13.3      |
| 30-39            | 500       | 308       | 0.616     | 10.4      |
| 40-49            | 192       | 115       | 0.599     | 9.1       |
| 50-59            | 77        | 77        | 1.000     | 5.0       |

Appendix A - A summary of age-specific desertion statistics

DELAWARE

| <u>Hunter's Age</u> | <u>No. Active Hunters</u> | <u>% of all Hunters</u> | <u>No. Dropouts</u> | <u>Average annual dropout rate</u> |
|---------------------|---------------------------|-------------------------|---------------------|------------------------------------|
| <10                 | 3                         | 1.0                     | 1                   | 0.250                              |
| 10-19               | 58                        | 20.0                    | 5                   | 0.079                              |
| 20-29               | 90                        | 31.0                    | 15                  | 0.143                              |
| 30-39               | 60                        | 20.7                    | 20                  | 0.250                              |
| 40-49               | 42                        | 14.5                    | 7                   | 0.143                              |
| 50-59               | 18                        | 6.2                     | 8                   | 0.308                              |
| 60-69               | 14                        | 4.8                     | 3                   | 0.176                              |
| 70-79               | <u>5</u>                  | <u>1.7</u>              | <u>2</u>            | <u>0.286</u>                       |
|                     | 290                       | 100                     | 61                  | 0.174                              |

Life Table based on age of dropouts:

| <u>Age Class</u> | <u><math>l_x</math></u> | <u><math>d_x</math></u> | <u><math>q_x</math></u> | <u><math>e_x</math></u> |
|------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| <10              | 1000                    | 16                      | 0.020                   | 37.0                    |
| 10-19            | 984                     | 82                      | 0.083                   | 27.5                    |
| 20-29            | 902                     | 246                     | 0.273                   | 19.6                    |
| 30-39            | 652                     | 328                     | 0.500                   | 15.0                    |
| 40-49            | 328                     | 115                     | 0.351                   | 15.1                    |
| 50-59            | 213                     | 131                     | 0.615                   | 10.5                    |
| 60-69            | 82                      | 49                      | 0.598                   | 9.1                     |
| 70-79            | 33                      | 33                      | 1.000                   | 5.0                     |

Life Table based on age structure of active hunters:

| <u>Age Class</u> | <u><math>l_x</math></u> | <u><math>d_x</math></u> | <u><math>q_x</math></u> | <u><math>e_x</math></u> |
|------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| <10              | 1000                    | 143                     | 0.143                   | 27.6                    |
| 10-19            | 857                     | 71                      | 0.083                   | 21.4                    |
| 20-29            | 786                     | 406                     | 0.517                   | 12.9                    |
| 30-39            | 380                     | 214                     | 0.563                   | 11.3                    |
| 40-49            | 166                     | 95                      | 0.572                   | 9.3                     |
| 50-59            | 71                      | 71                      | 1.000                   | 5.0                     |

Appendix A - A summary of age-specific desertion statistics

FLORIDA

| <u>Hunter's Age</u> | <u>No. Active Hunters</u> | <u>% of all Hunters</u> | <u>No. Dropouts</u> | <u>Average annual dropout rate</u> |
|---------------------|---------------------------|-------------------------|---------------------|------------------------------------|
| <10                 | 8                         | 2.2                     | 1                   | 0.111                              |
| 10-19               | 99                        | 27.2                    | 11                  | 0.100                              |
| 20-29               | 91                        | 25.0                    | 21                  | 0.188                              |
| 30-39               | 69                        | 19.0                    | 28                  | 0.289                              |
| 40-49               | 33                        | 9.1                     | 9                   | 0.214                              |
| 50-59               | 30                        | 8.2                     | 10                  | 0.250                              |
| 60-69               | 27                        | 7.4                     | 3                   | 0.100                              |
| 70-79               | 6                         | 1.6                     | 4                   | 0.400                              |
| 80-89               | <u>1</u>                  | <u>0.3</u>              | <u>0</u>            | <u>0.000</u>                       |
|                     | 364                       | 100                     | 87                  | 0.193                              |

Life Table based on age of dropouts:

| <u>Age Class</u> | <u><math>l_x</math></u> | <u><math>d_x</math></u> | <u><math>q_x</math></u> | <u><math>e_x</math></u> |
|------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| <10              | 1000                    | 11                      | 0.011                   | 35.9                    |
| 10-19            | 989                     | 126                     | 0.127                   | 26.3                    |
| 20-29            | 863                     | 242                     | 0.280                   | 19.4                    |
| 30-39            | 621                     | 323                     | 0.520                   | 15.0                    |
| 40-49            | 298                     | 103                     | 0.346                   | 15.8                    |
| 50-59            | 195                     | 115                     | 0.590                   | 11.5                    |
| 60-69            | 80                      | 34                      | 0.425                   | 10.8                    |
| 70-79            | 46                      | 46                      | 1.000                   | 5.0                     |

Life Table based on age structure of active hunters:

| <u>Age Class</u> | <u><math>l_x</math></u> | <u><math>d_x</math></u> | <u><math>q_x</math></u> | <u><math>e_x</math></u> |
|------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| <10              | 1000                    | 240                     | 0.240                   | 26.2                    |
| 10-19            | 760                     | 80                      | 0.105                   | 22.9                    |
| 20-29            | 680                     | 340                     | 0.500                   | 15.0                    |
| 30-39            | 340                     | 0                       | 0.000                   | 15.0                    |
| 40-49            | *                       | *                       | *                       | *                       |
| 50-59            | 340                     | 340                     | 1.000                   | 5.0                     |

Appendix A - A summary of age-specific desertion statistics

GEORGIA

| <u>Hunter's Age</u> | <u>No. Active Hunters</u> | <u>% of all Hunters</u> | <u>No. Dropouts</u> | <u>Average annual dropout rate</u> |
|---------------------|---------------------------|-------------------------|---------------------|------------------------------------|
| <10                 | 8                         | 1.2                     | 0                   | 0.000                              |
| 10-19               | 137                       | 21.2                    | 20                  | 0.127                              |
| 20-29               | 184                       | 28.5                    | 32                  | 0.050                              |
| 30-39               | 148                       | 22.9                    | 22                  | 0.129                              |
| 40-49               | 76                        | 11.8                    | 23                  | 0.232                              |
| 50-59               | 51                        | 7.9                     | 15                  | 0.227                              |
| 60-69               | 33                        | 5.1                     | 4                   | 0.108                              |
| 70-79               | 4                         | 0.6                     | 2                   | 0.333                              |
| 80-89               | 2                         | 0.3                     | 1                   | 0.333                              |
| 90-99               | <u>2</u>                  | <u>0.3</u>              | <u>0</u>            | <u>0.000</u>                       |
|                     | 645                       | 100                     | 119                 | 0.156                              |

Life Table based on age of dropouts:

| <u>Age Class</u> | <u><math>l_x</math></u> | <u><math>d_x</math></u> | <u><math>q_x</math></u> | <u><math>e_x</math></u> |
|------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| <10              | 1000                    | 0                       | 0.000                   | 35.5                    |
| 10-19            | 1000                    | 168                     | 0.168                   | 25.5                    |
| 20-29            | 832                     | 269                     | 0.323                   | 19.7                    |
| 30-39            | 563                     | 185                     | 0.329                   | 16.7                    |
| 40-49            | 378                     | 193                     | 0.511                   | 12.4                    |
| 50-59            | 185                     | 126                     | 0.681                   | 10.0                    |
| 60-69            | 59                      | 34                      | 0.576                   | 10.7                    |
| 70-79            | 25                      | 17                      | 0.680                   | 8.4                     |
| 80-89            | 8                       | 8                       | 1.000                   | 5.0                     |

Life Table based on age structure of active hunters:

| <u>Age Class</u> | <u><math>l_x</math></u> | <u><math>d_x</math></u> | <u><math>q_x</math></u> | <u><math>e_x</math></u> |
|------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| <10              | *                       | *                       | *                       | *                       |
| 10-19            | 1000                    | 329                     | 0.329                   | 20.1                    |
| 20-29            | 671                     | 250                     | 0.373                   | 17.6                    |
| 30-39            | 421                     | 148                     | 0.352                   | 15.0                    |
| 40-49            | 273                     | 148                     | 0.242                   | 10.4                    |
| 50-59            | 125                     | 102                     | 0.816                   | 6.9                     |
| 60-69            | 23                      | 23                      | 1.000                   | 5.0                     |

Appendix A - A summary of age-specific desertion statistics

HAWAII

| <u>Hunter's Age</u> | <u>No. Active Hunters</u> | <u>% of all Hunters</u> | <u>No. Dropouts</u> | <u>Average annual dropout rate</u> |
|---------------------|---------------------------|-------------------------|---------------------|------------------------------------|
| <10                 | 2                         | 1.6                     | 2                   | 0.500                              |
| 10-19               | 18                        | 14.8                    | 3                   | 0.143                              |
| 20-29               | 48                        | 39.3                    | 18                  | 0.273                              |
| 30-39               | 38                        | 31.1                    | 14                  | 0.269                              |
| 40-49               | 9                         | 7.4                     | 8                   | 0.471                              |
| 50-59               | 6                         | 4.9                     | 1                   | 0.143                              |
| 60-69               | <u>1</u>                  | <u>0.8</u>              | <u>0</u>            | <u>0.000</u>                       |
|                     | 122                       | 100                     | 46                  | 0.274                              |

Life Table based on age of dropouts:

| <u>Age Class</u> | <u><math>l_x</math></u> | <u><math>d_x</math></u> | <u><math>q_x</math></u> | <u><math>e_x</math></u> |
|------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| <10              | 1000                    | 43                      | 0.043                   | 30.7                    |
| 10-19            | 957                     | 65                      | 0.068                   | 21.9                    |
| 20-29            | 892                     | 392                     | 0.439                   | 13.1                    |
| 30-39            | 500                     | 304                     | 0.608                   | 9.4                     |
| 40-49            | 196                     | 174                     | 0.888                   | 6.2                     |
| 50-59            | 22                      | 22                      | 1.000                   | 5.0                     |

Life Table based on age structure of active hunters:

| <u>Age Class</u> | <u><math>l_x</math></u> | <u><math>d_x</math></u> | <u><math>q_x</math></u> | <u><math>e_x</math></u> |
|------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| <10              | 1000                    | 0                       | 0.000                   | 25.5                    |
| 10-19            | 1000                    | 211                     | 0.211                   | 15.5                    |
| 20-29            | 789                     | 578                     | 0.733                   | 8.4                     |
| 30-39            | 211                     | 158                     | 0.749                   | 7.5                     |
| 40-49            | 53                      | 53                      | 1.000                   | 5.0                     |

Appendix A - A summary of age-specific desertion statistics

IDAHO

| <u>Hunter's Age</u> | <u>No. Active Hunters</u> | <u>% of all Hunters</u> | <u>No. Dropouts</u> | <u>Average annual dropout rate</u> |
|---------------------|---------------------------|-------------------------|---------------------|------------------------------------|
| <10                 | 11                        | 1.2                     | 0                   | 0.000                              |
| 10-19               | 199                       | 21.7                    | 16                  | 0.074                              |
| 20-29               | 243                       | 26.4                    | 42                  | 0.147                              |
| 30-39               | 189                       | 20.6                    | 31                  | 0.141                              |
| 40-49               | 127                       | 13.8                    | 12                  | 0.086                              |
| 50-59               | 80                        | 8.7                     | 10                  | 0.111                              |
| 60-69               | 50                        | 5.4                     | 13                  | 0.201                              |
| 70-79               | 16                        | 1.7                     | 4                   | 0.200                              |
| 80-89               | 3                         | 0.3                     | 4                   | 0.571                              |
| 90-99               | <u>1</u>                  | <u>0.1</u>              | <u>0</u>            | <u>0.000</u>                       |
|                     | 919                       | 100                     | 132                 | 0.126                              |

Life table based on age of dropouts:

| <u>Age Class</u> | <u><math>l_x</math></u> | <u><math>d_x</math></u> | <u><math>q_x</math></u> | <u><math>e_x</math></u> |
|------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| <10              | 1000                    | 0                       | 0.000                   | 37.5                    |
| 10-19            | 1000                    | 121                     | 0.121                   | 27.5                    |
| 20-29            | 879                     | 319                     | 0.363                   | 20.6                    |
| 30-39            | 560                     | 235                     | 0.420                   | 19.5                    |
| 40-49            | 325                     | 91                      | 0.280                   | 19.9                    |
| 50-59            | 234                     | 76                      | 0.325                   | 15.7                    |
| 60-69            | 151                     | 98                      | 0.620                   | 10.8                    |
| 70-79            | 60                      | 30                      | 0.500                   | 10.2                    |
| 80-89            | 30                      | 30                      | 1.000                   | 5.0                     |

Life Table based on age structure of active hunters:

| <u>Age Class</u> | <u><math>l_x</math></u> | <u><math>d_x</math></u> | <u><math>q_x</math></u> | <u><math>e_x</math></u> |
|------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| <10              | *                       | *                       | *                       | *                       |
| 10-19            | 1000                    | 293                     | 0.293                   | 21.9                    |
| 20-29            | 707                     | 270                     | 0.382                   | 18.9                    |
| 30-39            | 437                     | 119                     | 0.272                   | 17.4                    |
| 40-49            | 318                     | 159                     | 0.500                   | 12.1                    |
| 50-59            | 159                     | 111                     | 0.698                   | 9.1                     |
| 60-69            | 48                      | 32                      | 0.667                   | 8.3                     |
| 70-79            | 16                      | 16                      | 1.000                   | 5.0                     |

Appendix A - A summary of age-specific desertion statistics

ILLINOIS

| <u>Hunter's Age</u> | <u>No. Active Hunters</u> | <u>% of all Hunters</u> | <u>No. Dropouts</u> | <u>Average annual dropout rate</u> |
|---------------------|---------------------------|-------------------------|---------------------|------------------------------------|
| <10                 | 4                         | 1.1                     | 2                   | 0.333                              |
| 10-19               | 73                        | 19.9                    | 12                  | 0.141                              |
| 20-29               | 99                        | 27.0                    | 45                  | 0.313                              |
| 30-39               | 84                        | 23.0                    | 30                  | 0.263                              |
| 40-49               | 49                        | 13.4                    | 22                  | 0.310                              |
| 50-59               | 35                        | 9.6                     | 11                  | 0.239                              |
| 60-69               | 17                        | 4.5                     | 7                   | 0.292                              |
| 70-79               | 4                         | 1.1                     | 0                   | 0.000                              |
| 80-89               | <u>1</u>                  | <u>0.3</u>              | <u>0</u>            | <u>0.000</u>                       |
|                     | 366                       | 100                     | 129                 | 0.261                              |

Life Table based on age of dropouts:

| <u>Age Class</u> | <u><math>l_x</math></u> | <u><math>d_x</math></u> | <u><math>q_x</math></u> | <u><math>e_x</math></u> |
|------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| <10              | 1000                    | 16                      | 0.016                   | 34.2                    |
| 10-19            | 984                     | 93                      | 0.095                   | 24.7                    |
| 20-29            | 891                     | 348                     | 0.391                   | 16.7                    |
| 30-39            | 543                     | 233                     | 0.429                   | 14.3                    |
| 40-49            | 310                     | 171                     | 0.552                   | 11.2                    |
| 50-59            | 139                     | 85                      | 0.612                   | 8.9                     |
| 60-69            | 54                      | 54                      | 1.000                   | 5.0                     |

Life Table based on age structure of active hunters:

| <u>Age Class</u> | <u><math>l_x</math></u> | <u><math>d_x</math></u> | <u><math>q_x</math></u> | <u><math>e_x</math></u> |
|------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| <10              | 1000                    | 63                      | 0.063                   | 31.1                    |
| 10-19            | 937                     | 104                     | 0.111                   | 22.8                    |
| 20-29            | 833                     | 312                     | 0.375                   | 15.0                    |
| 30-39            | 521                     | 229                     | 0.440                   | 11.0                    |
| 40-49            | *                       | *                       | *                       | *                       |
| 50-59            | 292                     | 271                     | 0.928                   | 5.8                     |
| 60-69            | 21                      | 21                      | 1.000                   | 5.0                     |

Appendix A - A summary of age-specific desertion statistics

INDIANA

| <u>Hunter's Age</u> | <u>No. Active Hunters</u> | <u>% of all Hunters</u> | <u>No. Dropouts</u> | <u>Average annual dropout rate</u> |
|---------------------|---------------------------|-------------------------|---------------------|------------------------------------|
| <10                 | 6                         | 1.1                     | 1                   | 0.143                              |
| 10-19               | 117                       | 21.2                    | 15                  | 0.114                              |
| 20-29               | 194                       | 35.2                    | 34                  | 0.149                              |
| 30-39               | 104                       | 18.9                    | 29                  | 0.218                              |
| 40-49               | 68                        | 12.3                    | 16                  | 0.190                              |
| 50-59               | 35                        | 6.4                     | 14                  | 0.286                              |
| 60-69               | 22                        | 4.0                     | 10                  | 0.313                              |
| 70-79               | 4                         | 0.7                     | 1                   | 0.200                              |
| 80-89               | <u>1</u>                  | <u>0.2</u>              | <u>0</u>            | <u>0.000</u>                       |
|                     | 551                       | 100                     | 120                 | 0.179                              |

Life Table based on age of dropouts:

| <u>Age Class</u> | <u><math>l_x</math></u> | <u><math>d_x</math></u> | <u><math>q_x</math></u> | <u><math>e_x</math></u> |
|------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| <10              | 1000                    | 8                       | 0.008                   | 36.0                    |
| 10-19            | 992                     | 125                     | 0.126                   | 26.2                    |
| 20-29            | 867                     | 284                     | 0.328                   | 19.3                    |
| 30-39            | 583                     | 242                     | 0.415                   | 16.2                    |
| 40-49            | 341                     | 133                     | 0.390                   | 14.1                    |
| 50-59            | 208                     | 117                     | 0.563                   | 9.9                     |
| 60-69            | 91                      | 83                      | 0.912                   | 6.1                     |
| 70-79            | 8                       | 8                       | 1.000                   | 5.0                     |

Life Table based on age structure of active hunters:

| <u>Age Class</u> | <u><math>l_x</math></u> | <u><math>d_x</math></u> | <u><math>q_x</math></u> | <u><math>e_x</math></u> |
|------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| <10              | *                       | *                       | *                       | *                       |
| 10-19            | 1000                    | 393                     | 0.393                   | 17.4                    |
| 20-29            | 607                     | 281                     | 0.463                   | 15.4                    |
| 30-39            | 326                     | 169                     | 0.518                   | 14.3                    |
| 40-49            | 157                     | 34                      | 0.217                   | 7.0                     |
| 50-59            | 123                     | 101                     | 0.821                   | 6.8                     |
| 60-69            | 22                      | 22                      | 1.000                   | 5.0                     |

Appendix A - A summary of age-specific desertion statistics

IOWA

| <u>Hunter's Age</u> | <u>No. Active Hunters</u> | <u>% of all Hunters</u> | <u>No. Dropouts</u> | <u>Average annual dropout rate</u> |
|---------------------|---------------------------|-------------------------|---------------------|------------------------------------|
| <10                 | 16                        | 2.2                     | 1                   | 0.059                              |
| 10-19               | 196                       | 27.3                    | 13                  | 0.062                              |
| 20-29               | 173                       | 24.1                    | 20                  | 0.104                              |
| 30-39               | 140                       | 19.5                    | 23                  | 0.141                              |
| 40-49               | 93                        | 12.9                    | 11                  | 0.106                              |
| 50-59               | 58                        | 8.1                     | 9                   | 0.134                              |
| 60-69               | 32                        | 4.5                     | 6                   | 0.158                              |
| 70-79               | 10                        | 1.4                     | 3                   | 0.231                              |
| 80-89               | <u>1</u>                  | <u>0.1</u>              | <u>0</u>            | <u>0.000</u>                       |
|                     | 719                       | 100                     | 66                  | 0.107                              |

Life Table based on age of dropouts:

| <u>Age Class</u> | <u><math>l_x</math></u> | <u><math>d_x</math></u> | <u><math>q_x</math></u> | <u><math>e_x</math></u> |
|------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| <10              | 1000                    | 12                      | 0.012                   | 36.2                    |
| 10-19            | 988                     | 151                     | 0.153                   | 26.5                    |
| 20-29            | 837                     | 233                     | 0.278                   | 20.4                    |
| 30-39            | 604                     | 266                     | 0.440                   | 16.3                    |
| 40-49            | 338                     | 128                     | 0.379                   | 15.3                    |
| 50-59            | 210                     | 105                     | 0.500                   | 11.6                    |
| 60-69            | 105                     | 70                      | 0.667                   | 8.3                     |
| 70-79            | 35                      | 35                      | 1.000                   | 5.0                     |

Life Table based on age structure of active hunters:

| <u>Age Class</u> | <u><math>l_x</math></u> | <u><math>d_x</math></u> | <u><math>q_x</math></u> | <u><math>e_x</math></u> |
|------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| <10              | *                       | *                       | *                       | *                       |
| 10-19            | 1000                    | 259                     | 0.259                   | 23.1                    |
| 20-29            | 741                     | 225                     | 0.304                   | 19.4                    |
| 30-39            | 516                     | 236                     | 0.457                   | 15.7                    |
| 40-49            | 280                     | 67                      | 0.239                   | 14.6                    |
| 50-59            | 213                     | 157                     | 0.737                   | 7.7                     |
| 60-69            | 56                      | 56                      | 1.000                   | 5.0                     |

Appendix A - A summary of age-specific desertion statistics

KANSAS

| <u>Hunter's Age</u> | <u>No. Active Hunters</u> | <u>% of all Hunters</u> | <u>No. Dropouts</u> | <u>Average annual dropout rate</u> |
|---------------------|---------------------------|-------------------------|---------------------|------------------------------------|
| <10                 | 10                        | 1.7                     | 0                   | 0.000                              |
| 10-19               | 114                       | 19.5                    | 14                  | 0.109                              |
| 20-29               | 181                       | 31.0                    | 43                  | 0.192                              |
| 30-39               | 126                       | 21.6                    | 25                  | 0.166                              |
| 40-49               | 69                        | 11.8                    | 18                  | 0.207                              |
| 50-59               | 45                        | 7.7                     | 10                  | 0.182                              |
| 60-69               | 28                        | 4.8                     | 14                  | 0.333                              |
| 70-79               | 10                        | 1.7                     | 2                   | 0.167                              |
| 80-89               | <u>1</u>                  | <u>0.2</u>              | <u>1</u>            | <u>0.500</u>                       |
|                     | 584                       | 100                     | 127                 | 0.179                              |

Life Table based on age of dropouts:

| <u>Age Class</u> | <u><math>l_x</math></u> | <u><math>d_x</math></u> | <u><math>q_x</math></u> | <u><math>e_x</math></u> |
|------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| <10              | 1000                    | 0                       | 0.000                   | 36.7                    |
| 10-19            | 1000                    | 110                     | 0.110                   | 26.7                    |
| 20-29            | 890                     | 338                     | 0.380                   | 19.4                    |
| 30-39            | 552                     | 197                     | 0.357                   | 18.3                    |
| 40-49            | 355                     | 142                     | 0.400                   | 15.6                    |
| 50-59            | 213                     | 79                      | 0.371                   | 12.7                    |
| 60-69            | 134                     | 110                     | 0.821                   | 7.3                     |
| 70-79            | 24                      | 16                      | 0.667                   | 8.3                     |
| 80-89            | 8                       | 8                       | 1.000                   | 5.0                     |

Life Table based on age structure of active hunters:

| <u>Age Class</u> | <u><math>l_x</math></u> | <u><math>d_x</math></u> | <u><math>q_x</math></u> | <u><math>e_x</math></u> |
|------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| <10              | *                       | *                       | *                       | *                       |
| 10-19            | 1000                    | 175                     | 0.175                   | 21.5                    |
| 20-29            | 825                     | 424                     | 0.514                   | 15.0                    |
| 30-39            | 401                     | 163                     | 0.406                   | 15.7                    |
| 40-49            | 238                     | 100                     | 0.420                   | 12.9                    |
| 50-59            | 138                     | 113                     | 0.819                   | 8.7                     |
| 60-69            | 25                      | 0                       | 0.000                   | 15.2                    |
| 70-79            | 25                      | 25                      | 1.000                   | 5.0                     |

Appendix A - A summary of age-specific desertion statistics

KENTUCKY

| <u>Hunter's Age</u> | <u>No. Active Hunters</u> | <u>% of all Hunters</u> | <u>No. Dropouts</u> | <u>Average annual dropout rate</u> |
|---------------------|---------------------------|-------------------------|---------------------|------------------------------------|
| <10                 | 12                        | 2.1                     | 1                   | 0.077                              |
| 10-19               | 131                       | 22.8                    | 9                   | 0.064                              |
| 20-29               | 158                       | 27.5                    | 28                  | 0.151                              |
| 30-39               | 103                       | 17.9                    | 20                  | 0.163                              |
| 40-49               | 82                        | 14.3                    | 10                  | 0.109                              |
| 50-59               | 49                        | 8.5                     | 12                  | 0.197                              |
| 60-69               | 28                        | 4.9                     | 2                   | 0.067                              |
| 70-79               | 10                        | 1.7                     | 0                   | 0.000                              |
| 80-89               | 1                         | 0.2                     | 1                   | 0.500                              |
| 90-99               | <u>1</u>                  | <u>0.2</u>              | <u>0</u>            | <u>0.000</u>                       |
|                     | 575                       | 100                     | 83                  | 0.126                              |

Life Table based on age of dropouts:

| <u>Age Class</u> | <u><math>l_x</math></u> | <u><math>d_x</math></u> | <u><math>q_x</math></u> | <u><math>e_x</math></u> |
|------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| <10              | 1000                    | 12                      | 0.012                   | 34.6                    |
| 10-19            | 988                     | 108                     | 0.109                   | 25.0                    |
| 20-29            | 880                     | 338                     | 0.384                   | 17.4                    |
| 30-39            | 542                     | 241                     | 0.445                   | 15.1                    |
| 40-49            | 301                     | 120                     | 0.399                   | 13.1                    |
| 50-59            | 181                     | 145                     | 0.801                   | 8.5                     |
| 60-69            | 36                      | 24                      | 0.667                   | 12.2                    |
| 70-79            | 12                      | 0                       | 0.000                   | 15.4                    |
| 80-89            | 12                      | 12                      | 1.000                   | 5.0                     |

Life Table based on age structure of active hunters:

| <u>Age Class</u> | <u><math>l_x</math></u> | <u><math>d_x</math></u> | <u><math>q_x</math></u> | <u><math>e_x</math></u> |
|------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| <10              | 1000                    | 45                      | 0.045                   | 33.1                    |
| 10-19            | 955                     | 268                     | 0.281                   | 24.4                    |
| 20-29            | 687                     | 90                      | 0.131                   | 22.0                    |
| 30-39            | 597                     | 239                     | 0.400                   | 14.5                    |
| 40-49            | 358                     | 209                     | 0.584                   | 10.9                    |
| 50-59            | 149                     | 104                     | 0.698                   | 9.1                     |
| 60-69            | 45                      | 30                      | 0.667                   | 8.4                     |
| 70-79            | 15                      | 15                      | 1.000                   | 5.0                     |

Appendix A - A summary of age-specific desertion statistics

LOUISIANA

| <u>Hunter's Age</u> | <u>No. Active Hunters</u> | <u>% of all Hunters</u> | <u>No. Dropouts</u> | <u>Average annual dropout rate</u> |
|---------------------|---------------------------|-------------------------|---------------------|------------------------------------|
| <10                 | 24                        | 2.8                     | 1                   | 0.040                              |
| 10-19               | 222                       | 26.1                    | 16                  | 0.067                              |
| 20-29               | 225                       | 26.4                    | 28                  | 0.111                              |
| 30-39               | 146                       | 17.1                    | 22                  | 0.131                              |
| 40-49               | 92                        | 10.8                    | 11                  | 0.107                              |
| 50-59               | 73                        | 8.6                     | 10                  | 0.120                              |
| 60-69               | 54                        | 6.3                     | 7                   | 0.115                              |
| 70-79               | 16                        | 1.9                     | 3                   | 0.158                              |
| 80-89               | 0                         | 0.0                     | 0                   | 0.000                              |
| 90-99               | <u>0</u>                  | <u>0.0</u>              | <u>1</u>            | <u>1.000</u>                       |
|                     | 852                       | 100                     | 99                  | 0.104                              |

Life Table based on age of dropouts:

| <u>Age Class</u> | <u><math>l_x</math></u> | <u><math>d_x</math></u> | <u><math>q_x</math></u> | <u><math>e_x</math></u> |
|------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| <10              | 1000                    | 10                      | 0.010                   | 35.6                    |
| 10-19            | 990                     | 162                     | 0.164                   | 25.9                    |
| 20-29            | 828                     | 283                     | 0.342                   | 20.1                    |
| 30-39            | 545                     | 222                     | 0.407                   | 18.0                    |
| 40-49            | 323                     | 111                     | 0.344                   | 16.9                    |
| 50-59            | 212                     | 101                     | 0.476                   | 13.1                    |
| 60-69            | 111                     | 71                      | 0.640                   | 10.5                    |
| 70-79            | 40                      | 30                      | 0.750                   | 10.0                    |
| 80-89            | 10                      | 0                       | 0.000                   | 15.0                    |
| 90-99            | 10                      | 10                      | 1.000                   | 5.0                     |

Life Table based on age structure of active hunters:

| <u>Age Class</u> | <u><math>l_x</math></u> | <u><math>d_x</math></u> | <u><math>q_x</math></u> | <u><math>e_x</math></u> |
|------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| <10              | *                       | *                       | *                       | *                       |
| 10-19            | 1000                    | 430                     | 0.430                   | 18.6                    |
| 20-29            | 570                     | 91                      | 0.160                   | 18.8                    |
| 30-39            | 479                     | 215                     | 0.449                   | 11.4                    |
| 40-49            | *                       | *                       | *                       | *                       |
| 50-59            | 264                     | 223                     | 0.845                   | 6.6                     |
| 60-69            | 41                      | 41                      | 1.000                   | 5.0                     |

Appendix A - A summary of age-specific desertion statistics

MAINE

| <u>Hunter's Age</u> | <u>No. Active Hunters</u> | <u>% of all Hunters</u> | <u>No. Dropouts</u> | <u>Average annual dropout rate</u> |
|---------------------|---------------------------|-------------------------|---------------------|------------------------------------|
| <10                 | 2                         | 0.3                     | 1                   | 0.333                              |
| 10-19               | 172                       | 22.1                    | 13                  | 0.070                              |
| 20-29               | 171                       | 22.0                    | 25                  | 0.128                              |
| 30-39               | 162                       | 20.8                    | 14                  | 0.080                              |
| 40-49               | 109                       | 14.0                    | 10                  | 0.084                              |
| 50-59               | 73                        | 9.4                     | 15                  | 0.170                              |
| 60-69               | 62                        | 8.0                     | 8                   | 0.114                              |
| 70-79               | 24                        | 3.1                     | 5                   | 0.172                              |
| 80-89               | <u>3</u>                  | <u>0.4</u>              | <u>1</u>            | <u>0.250</u>                       |
|                     | 778                       | 100                     | 92                  | 0.106                              |

Life Table based on age of dropouts:

| <u>Age Class</u> | <u><math>l_x</math></u> | <u><math>d_x</math></u> | <u><math>q_x</math></u> | <u><math>e_x</math></u> |
|------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| <10              | 1000                    | 11                      | 0.011                   | 38.8                    |
| 10-19            | 989                     | 141                     | 0.143                   | 29.2                    |
| 20-29            | 848                     | 272                     | 0.321                   | 23.2                    |
| 30-39            | 576                     | 152                     | 0.264                   | 21.8                    |
| 40-49            | 424                     | 109                     | 0.257                   | 17.9                    |
| 50-59            | 315                     | 163                     | 0.517                   | 12.3                    |
| 60-69            | 152                     | 87                      | 0.572                   | 10.1                    |
| 70-79            | 65                      | 54                      | 0.831                   | 6.7                     |
| 80-89            | 11                      | 11                      | 1.000                   | 5.0                     |

Life Table based on age structure of active hunters:

| <u>Age Class</u> | <u><math>l_x</math></u> | <u><math>d_x</math></u> | <u><math>q_x</math></u> | <u><math>e_x</math></u> |
|------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| <10              | 1000                    | 43                      | 0.043                   | 32.5                    |
| 10-19            | 957                     | 138                     | 0.144                   | 23.7                    |
| 20-29            | 819                     | 277                     | 0.338                   | 16.8                    |
| 30-39            | 542                     | 202                     | 0.373                   | 12.9                    |
| 40-49            | *                       | *                       | *                       | *                       |
| 50-59            | 340                     | 255                     | 0.750                   | 7.5                     |
| 60-69            | 85                      | 85                      | 1.000                   | 5.0                     |

Appendix A - A summary of age-specific desertion statistics

MARYLAND

| <u>Hunter's Age</u> | <u>No. Active<br/>Hunters</u> | <u>% of all<br/>Hunters</u> | <u>No.<br/>Dropouts</u> | <u>Average annual<br/>dropout rate</u> |
|---------------------|-------------------------------|-----------------------------|-------------------------|----------------------------------------|
| <10                 | 5                             | 1.3                         | 1                       | 0.167                                  |
| 10-19               | 61                            | 15.8                        | 10                      | 0.141                                  |
| 20-29               | 123                           | 31.9                        | 22                      | 0.057                                  |
| 30-39               | 69                            | 17.9                        | 11                      | 0.029                                  |
| 40-49               | 60                            | 15.6                        | 8                       | 0.118                                  |
| 50-59               | 51                            | 13.2                        | 7                       | 0.121                                  |
| 60-69               | 14                            | 3.6                         | 1                       | 0.067                                  |
| 70-79               | 1                             | 0.3                         | 1                       | 0.500                                  |
| 80-89               | <u>1</u>                      | <u>0.3</u>                  | <u>0</u>                | <u>0.000</u>                           |
|                     | 385                           | 100                         | 61                      | 0.137                                  |

Life Table based on age of dropouts:

| <u>Age Class</u> | <u><math>l_x</math></u> | <u><math>d_x</math></u> | <u><math>q_x</math></u> | <u><math>e_x</math></u> |
|------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| <10              | 1000                    | 16                      | 0.016                   | 32.4                    |
| 10-19            | 984                     | 164                     | 0.167                   | 22.9                    |
| 20-29            | 820                     | 362                     | 0.441                   | 16.4                    |
| 30-39            | 458                     | 180                     | 0.393                   | 15.4                    |
| 40-49            | 278                     | 131                     | 0.471                   | 12.2                    |
| 50-59            | 147                     | 113                     | 0.782                   | 8.4                     |
| 60-69            | 32                      | 16                      | 0.500                   | 10.3                    |
| 70-79            | 16                      | 16                      | 1.000                   | 5.0                     |

Life Table based on age structure of active hunters:

| <u>Age Class</u> | <u><math>l_x</math></u> | <u><math>d_x</math></u> | <u><math>q_x</math></u> | <u><math>e_x</math></u> |
|------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| <10              | *                       | *                       | *                       | *                       |
| 10-19            | 1000                    | 308                     | 0.308                   | 22.9                    |
| 20-29            | 692                     | 96                      | 0.139                   | 20.8                    |
| 30-39            | 596                     | 231                     | 0.388                   | 13.4                    |
| 40-49            | 365                     | 250                     | 0.685                   | 8.7                     |
| 50-59            | 115                     | 96                      | 0.835                   | 6.7                     |
| 60-69            | 19                      | 19                      | 1.000                   | 5.0                     |

Appendix A - A summary of age-specific desertion statistics

MASSACHUSETTS

| <u>Hunter's Age</u> | <u>No. Active Hunters</u> | <u>% of all Hunters</u> | <u>No. Dropouts</u> | <u>Average annual dropout rate</u> |
|---------------------|---------------------------|-------------------------|---------------------|------------------------------------|
| <10                 | 2                         | 0.8                     | 16                  | 0.889                              |
| 10-19               | 36                        | 13.7                    | 48                  | 0.571                              |
| 20-29               | 76                        | 28.9                    | 39                  | 0.339                              |
| 30-39               | 63                        | 24.0                    | 43                  | 0.406                              |
| 40-49               | 36                        | 13.7                    | 38                  | 0.514                              |
| 50-59               | 25                        | 9.5                     | 27                  | 0.519                              |
| 60-69               | 18                        | 6.8                     | 25                  | 0.581                              |
| 70-79               | 6                         | 2.3                     | 8                   | 0.571                              |
| 80-89               | <u>1</u>                  | <u>0.4</u>              | <u>1</u>            | <u>0.500</u>                       |
|                     | 263                       | 100                     | 245                 | 0.482                              |

Life Table based on age of dropouts:

| <u>Age Class</u> | <u><math>l_x</math></u> | <u><math>d_x</math></u> | <u><math>q_x</math></u> | <u><math>e_x</math></u> |
|------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| <10              | 1000                    | 65                      | 0.065                   | 35.3                    |
| 10-19            | 935                     | 96                      | 0.210                   | 27.4                    |
| 20-29            | 739                     | 159                     | 0.215                   | 23.3                    |
| 30-39            | 580                     | 176                     | 0.303                   | 18.3                    |
| 40-49            | 404                     | 155                     | 0.384                   | 15.6                    |
| 50-59            | 249                     | 110                     | 0.442                   | 12.2                    |
| 60-69            | 139                     | 102                     | 0.734                   | 8.0                     |
| 70-79            | 37                      | 33                      | 0.892                   | 6.2                     |
| 80-89            | 4                       | 4                       | 1.000                   | 5.0                     |

Life Table based on age structure of active hunters:

| <u>Age Class</u> | <u><math>l_x</math></u> | <u><math>d_x</math></u> | <u><math>q_x</math></u> | <u><math>e_x</math></u> |
|------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| <10              | 1000                    | 182                     | 0.182                   | 24.1                    |
| 10-19            | 818                     | 182                     | 0.222                   | 18.4                    |
| 20-29            | 636                     | 340                     | 0.535                   | 12.2                    |
| 30-39            | *                       | *                       | *                       | *                       |
| 40-49            | 296                     | 159                     | 0.537                   | 10.4                    |
| 50-59            | 137                     | 114                     | 0.832                   | 6.7                     |
| 60-69            | 23                      | 23                      | 1.000                   | 5.0                     |

Appendix A - A summary of age-specific desertion statistics

MICHIGAN

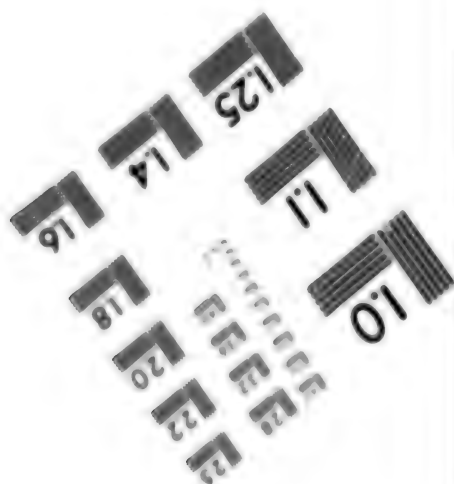
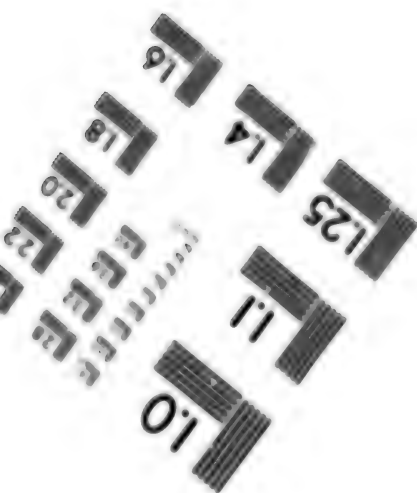
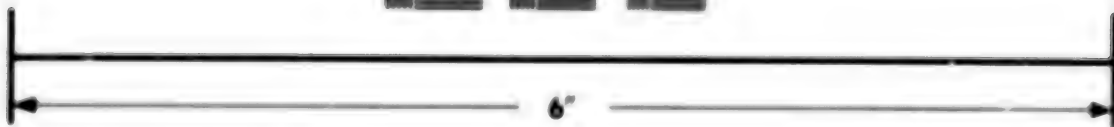
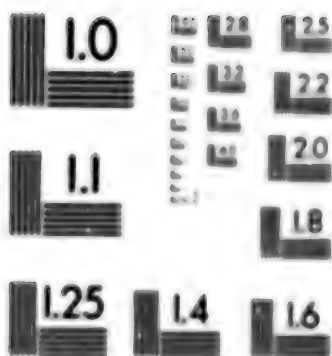
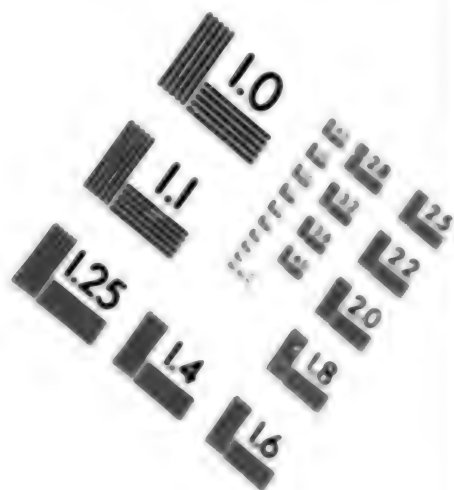
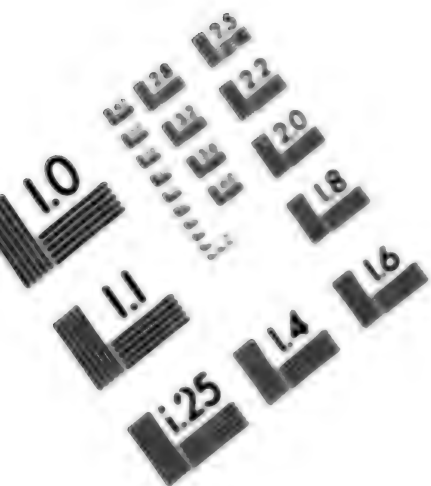
| <u>Hunter's Age</u> | <u>No. Active Hunters</u> | <u>% of all Hunters</u> | <u>No. Dropouts</u> | <u>Average annual dropout rate</u> |
|---------------------|---------------------------|-------------------------|---------------------|------------------------------------|
| <10                 | 1                         | 0.1                     | 0                   | 0.000                              |
| 10-19               | 192                       | 18.7                    | 16                  | 0.077                              |
| 20-29               | 264                       | 25.7                    | 54                  | 0.170                              |
| 30-39               | 222                       | 21.6                    | 35                  | 0.136                              |
| 40-49               | 145                       | 14.1                    | 19                  | 0.116                              |
| 50-59               | 107                       | 10.4                    | 16                  | 0.130                              |
| 60-69               | 72                        | 7.0                     | 5                   | 0.065                              |
| 70-79               | 20                        | 1.9                     | 4                   | 0.167                              |
| 80-89               | <u>6</u>                  | <u>0.6</u>              | <u>2</u>            | <u>0.250</u>                       |
|                     | 1029                      | 100                     | 151                 | 0.128                              |

Life Table based on age of dropouts:

| <u>Age Class</u> | <u><math>l_x</math></u> | <u><math>d_x</math></u> | <u><math>q_x</math></u> | <u><math>e_x</math></u> |
|------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| <10              | 1000                    | 0                       | 0.000                   | 35.4                    |
| 10-19            | 1000                    | 106                     | 0.106                   | 25.4                    |
| 20-29            | 894                     | 358                     | 0.400                   | 17.8                    |
| 30-39            | 536                     | 232                     | 0.433                   | 16.3                    |
| 40-49            | 304                     | 126                     | 0.414                   | 15.0                    |
| 50-59            | 178                     | 106                     | 0.596                   | 12.1                    |
| 60-69            | 72                      | 33                      | 0.458                   | 12.5                    |
| 70-79            | 40                      | 26                      | 0.650                   | 8.5                     |
| 80-89            | 14                      | 13                      | 0.929                   | 5.0                     |

Life Table based on age structure of active hunters:

| <u>Age Class</u> | <u><math>l_x</math></u> | <u><math>d_x</math></u> | <u><math>q_x</math></u> | <u><math>e_x</math></u> |
|------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| <10              | 1000                    | 218                     | 0.218                   | 24.1                    |
| 10-19            | *                       | *                       | *                       | *                       |
| 20-29            | 782                     | 252                     | 0.322                   | 19.5                    |
| 30-39            | 530                     | 150                     | 0.283                   | 16.3                    |
| 40-49            | 380                     | 190                     | 0.500                   | 10.8                    |
| 50-59            | 190                     | 163                     | 0.858                   | 6.6                     |
| 60-69            | 27                      | 27                      | 1.000                   | 5.0                     |



Appendix A - A summary of age-specific desertion statistics

MINNESOTA

| <u>Hunter's Age</u> | <u>No. Active Hunters</u> | <u>% of all Hunters</u> | <u>No. Dropouts</u> | <u>Average annual dropout rate</u> |
|---------------------|---------------------------|-------------------------|---------------------|------------------------------------|
| <10                 | 13                        | 1.4                     | 0                   | 0.000                              |
| 10-19               | 201                       | 21.8                    | 16                  | 0.074                              |
| 20-29               | 255                       | 27.7                    | 35                  | 0.121                              |
| 30-39               | 210                       | 22.8                    | 24                  | 0.103                              |
| 40-49               | 112                       | 12.2                    | 18                  | 0.138                              |
| 50-59               | 73                        | 7.9                     | 6                   | 0.076                              |
| 60-69               | 42                        | 4.6                     | 7                   | 0.143                              |
| 70-79               | 13                        | 1.4                     | 3                   | 0.188                              |
| 80-89               | <u>1</u>                  | <u>0.1</u>              | <u>0</u>            | <u>0.000</u>                       |
|                     | 920                       | 100                     | 109                 | 0.106                              |

Life Table based on age of dropouts:

| <u>Age Class</u> | <u><math>l_x</math></u> | <u><math>d_x</math></u> | <u><math>q_x</math></u> | <u><math>e_x</math></u> |
|------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| <10              | 1000                    | 0                       | 0.000                   | 34.7                    |
| 10-19            | 1000                    | 147                     | 0.147                   | 24.7                    |
| 20-29            | 853                     | 321                     | 0.376                   | 18.0                    |
| 30-39            | 532                     | 220                     | 0.414                   | 15.9                    |
| 40-49            | 312                     | 165                     | 0.529                   | 13.6                    |
| 50-59            | 147                     | 55                      | 0.374                   | 13.2                    |
| 60-69            | 92                      | 64                      | 0.696                   | 8.0                     |
| 70-79            | 28                      | 28                      | 1.000                   | 5.0                     |

Life Table based on age structure of active hunters:

| <u>Age Class</u> | <u><math>l_x</math></u> | <u><math>d_x</math></u> | <u><math>q_x</math></u> | <u><math>e_x</math></u> |
|------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| <10              | *                       | *                       | *                       | *                       |
| 10-19            | 1000                    | 405                     | 0.405                   | 19.3                    |
| 20-29            | 595                     | 203                     | 0.341                   | 19.0                    |
| 30-39            | 392                     | 126                     | 0.321                   | 16.3                    |
| 40-49            | 266                     | 154                     | 0.579                   | 11.6                    |
| 50-59            | 112                     | 49                      | 0.438                   | 10.7                    |
| 60-69            | 63                      | 63                      | 1.000                   | 5.0                     |

Appendix A - A summary of age-specific desertion statistics

MISSISSIPPI

| <u>Hunter's Age</u> | <u>No. Active Hunters</u> | <u>% of all Hunters</u> | <u>No. Dropouts</u> | <u>Average annual dropout rate</u> |
|---------------------|---------------------------|-------------------------|---------------------|------------------------------------|
| <10                 | 13                        | 1.5                     | 0                   | 0.000                              |
| 10-19               | 184                       | 21.2                    | 9                   | 0.047                              |
| 20-29               | 218                       | 25.2                    | 25                  | 0.103                              |
| 30-39               | 169                       | 18.9                    | 11                  | 0.013                              |
| 40-49               | 113                       | 13.0                    | 9                   | 0.074                              |
| 50-59               | 80                        | 9.2                     | 6                   | 0.007                              |
| 60-69               | 71                        | 8.2                     | 7                   | 0.090                              |
| 70-79               | 22                        | 2.5                     | 6                   | 0.214                              |
| 80-89               | <u>1</u>                  | <u>0.1</u>              | <u>0</u>            | <u>0.000</u>                       |
|                     | 866                       | 100                     | 73                  | 0.078                              |

Life Table based on age of dropouts:

| <u>Age Class</u> | <u>l<sub>x</sub></u> | <u>d<sub>x</sub></u> | <u>q<sub>x</sub></u> | <u>e<sub>x</sub></u> |
|------------------|----------------------|----------------------|----------------------|----------------------|
| <10              | 1000                 | 0                    | 0.000                | 38.2                 |
| 10-19            | 1000                 | 123                  | 0.123                | 28.2                 |
| 20-29            | 877                  | 343                  | 0.391                | 21.5                 |
| 30-39            | 534                  | 151                  | 0.283                | 22.0                 |
| 40-49            | 383                  | 123                  | 0.321                | 18.6                 |
| 50-59            | 260                  | 82                   | 0.315                | 15.1                 |
| 60-69            | 178                  | 96                   | 0.539                | 9.7                  |
| 70-79            | 82                   | 82                   | 1.000                | 5.0                  |

Life Table based on age structure of active hunters:

| <u>Age Class</u> | <u>l<sub>x</sub></u> | <u>d<sub>x</sub></u> | <u>q<sub>x</sub></u> | <u>e<sub>x</sub></u> |
|------------------|----------------------|----------------------|----------------------|----------------------|
| <10              | *                    | *                    | *                    | *                    |
| 10-19            | 1000                 | 291                  | 0.291                | 21.5                 |
| 20-29            | 709                  | 209                  | 0.295                | 18.2                 |
| 30-39            | 500                  | 91                   | 0.182                | 13.7                 |
| 40-49            | *                    | *                    | *                    | *                    |
| 50-59            | 409                  | 382                  | 0.934                | 5.7                  |
| 60-69            | 27                   | 27                   | 1.000                | 5.0                  |

Appendix A - A summary of age-specific desertion statistics

MISSOURI

| <u>Hunter's Age</u> | <u>No. Active Hunters</u> | <u>% of all Hunters</u> | <u>No. Dropouts</u> | <u>Average annual dropout rate</u> |
|---------------------|---------------------------|-------------------------|---------------------|------------------------------------|
| <10                 | 10                        | 1.4                     | 2                   | 0.167                              |
| 10-19               | 159                       | 22.6                    | 17                  | 0.097                              |
| 20-29               | 172                       | 24.5                    | 35                  | 0.169                              |
| 30-39               | 124                       | 17.6                    | 36                  | 0.225                              |
| 40-49               | 103                       | 14.7                    | 25                  | 0.195                              |
| 50-59               | 62                        | 8.8                     | 19                  | 0.235                              |
| 60-69               | 45                        | 6.4                     | 12                  | 0.211                              |
| 70-79               | 24                        | 3.4                     | 8                   | 0.143                              |
| 80-89               | 3                         | 0.4                     | 1                   | 0.250                              |
| 90-99               | <u>1</u>                  | <u>0.1</u>              | <u>0</u>            | <u>0.000</u>                       |
|                     | 703                       | 100                     | 151                 | 0.177                              |

Life Table based on age of dropouts:

| <u>Age Class</u> | <u><math>l_x</math></u> | <u><math>d_x</math></u> | <u><math>q_x</math></u> | <u><math>e_x</math></u> |
|------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| <10              | 1000                    | 13                      | 0.013                   | 38.0                    |
| 10-19            | 987                     | 113                     | 0.114                   | 28.4                    |
| 20-29            | 874                     | 232                     | 0.265                   | 21.4                    |
| 30-39            | 642                     | 238                     | 0.371                   | 17.4                    |
| 40-49            | 404                     | 166                     | 0.411                   | 14.7                    |
| 50-59            | 238                     | 126                     | 0.529                   | 11.4                    |
| 60-69            | 112                     | 79                      | 0.705                   | 8.7                     |
| 70-79            | 33                      | 26                      | 0.788                   | 7.3                     |
| 80-89            | 7                       | 7                       | 1.000                   | 5.0                     |

Life Table based on age structure of active hunters:

| <u>Age Class</u> | <u><math>l_x</math></u> | <u><math>d_x</math></u> | <u><math>q_x</math></u> | <u><math>e_x</math></u> |
|------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| <10              | 1000                    | 68                      | 0.068                   | 40.3                    |
| 10-19            | 932                     | 54                      | 0.058                   | 32.9                    |
| 20-29            | 878                     | 108                     | 0.123                   | 24.6                    |
| 30-39            | 770                     | 324                     | 0.421                   | 17.3                    |
| 40-49            | 446                     | 81                      | 0.182                   | 16.3                    |
| 50-59            | 365                     | 257                     | 0.704                   | 8.7                     |
| 60-69            | 108                     | 81                      | 0.750                   | 7.6                     |
| 70-79            | 27                      | 27                      | 1.000                   | 5.0                     |

Appendix A - A summary of age-specific desertion statistics

MONTANA

| <u>Hunter's Age</u> | <u>No. Active Hunters</u> | <u>% of all Hunters</u> | <u>No. Dropouts</u> | <u>Average annual dropout rate</u> |
|---------------------|---------------------------|-------------------------|---------------------|------------------------------------|
| <10                 | 19                        | 1.9                     | 0                   | 0.000                              |
| 10-19               | 185                       | 18.8                    | 13                  | 0.066                              |
| 20-29               | 281                       | 28.6                    | 50                  | 0.151                              |
| 30-39               | 210                       | 21.4                    | 26                  | 0.110                              |
| 40-49               | 137                       | 13.9                    | 16                  | 0.055                              |
| 50-59               | 88                        | 9.0                     | 14                  | 0.137                              |
| 60-69               | 46                        | 4.7                     | 12                  | 0.207                              |
| 70-79               | 16                        | 1.6                     | 1                   | 0.059                              |
| 80-89               | <u>1</u>                  | <u>0.1</u>              | <u>0</u>            | <u>0.000</u>                       |
|                     | 983                       | 100                     | 132                 | 0.118                              |

Life Table based on age of dropouts:

| <u>Age Class</u> | <u><math>l_x</math></u> | <u><math>d_x</math></u> | <u><math>q_x</math></u> | <u><math>e_x</math></u> |
|------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| <10              | 1000                    | 0                       | 0.000                   | 35.7                    |
| 10-19            | 1000                    | 98                      | 0.098                   | 25.7                    |
| 20-29            | 902                     | 379                     | 0.420                   | 17.9                    |
| 30-39            | 523                     | 197                     | 0.377                   | 17.2                    |
| 40-49            | 326                     | 121                     | 0.371                   | 8.5                     |
| 50-59            | 205                     | 106                     | 0.517                   | 10.2                    |
| 60-69            | 99                      | 91                      | 0.919                   | 5.9                     |
| 70-79            | 8                       | 8                       | 1.000                   | 5.0                     |

Life Table based on age structure of active hunters:

| <u>Age Class</u> | <u><math>l_x</math></u> | <u><math>d_x</math></u> | <u><math>q_x</math></u> | <u><math>e_x</math></u> |
|------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| <10              | *                       | *                       | *                       | *                       |
| 10-19            | 1000                    | 295                     | 0.295                   | 21.6                    |
| 20-29            | 705                     | 279                     | 0.396                   | 18.5                    |
| 30-39            | 426                     | 124                     | 0.291                   | 17.4                    |
| 40-49            | 302                     | 147                     | 0.487                   | 12.5                    |
| 50-59            | 155                     | 85                      | 0.548                   | 9.5                     |
| 60-69            | 70                      | 70                      | 1.000                   | 5.0                     |

Appendix A - A summary of age-specific desertion statistics

NORTH CAROLINA

| <u>Hunter's Age</u> | <u>No. Active Hunters</u> | <u>% of all Hunters</u> | <u>No. Dropouts</u> | <u>Average annual dropout rate</u> |
|---------------------|---------------------------|-------------------------|---------------------|------------------------------------|
| <10                 | 4                         | 0.7                     | 2                   | 0.333                              |
| 10-19               | 119                       | 21.8                    | 16                  | 0.119                              |
| 20-29               | 134                       | 24.5                    | 30                  | 0.183                              |
| 30-39               | 118                       | 21.6                    | 20                  | 0.145                              |
| 40-49               | 78                        | 14.3                    | 13                  | 0.143                              |
| 50-59               | 53                        | 9.7                     | 6                   | 0.102                              |
| 60-69               | 33                        | 6.0                     | 6                   | 0.154                              |
| 70-79               | <u>7</u>                  | <u>1.3</u>              | <u>3</u>            | <u>0.300</u>                       |
|                     | 546                       | 100                     | 96                  | 0.150                              |

Life Table based on age of dropouts:

| <u>Age Class</u> | <u>l<sub>x</sub></u> | <u>d<sub>x</sub></u> | <u>q<sub>x</sub></u> | <u>e<sub>x</sub></u> |
|------------------|----------------------|----------------------|----------------------|----------------------|
| <10              | 1000                 | 21                   | 0.021                | 33.6                 |
| 10-19            | 979                  | 167                  | 0.171                | 24.2                 |
| 20-29            | 812                  | 313                  | 0.385                | 18.2                 |
| 30-39            | 499                  | 207                  | 0.415                | 16.5                 |
| 40-49            | 292                  | 135                  | 0.462                | 14.6                 |
| 50-59            | 157                  | 63                   | 0.401                | 12.9                 |
| 60-69            | 94                   | 63                   | 0.670                | 8.3                  |
| 70-79            | 31                   | 31                   | 1.000                | 5.0                  |

Life Table based on age structure of active hunters:

| <u>Age Class</u> | <u>l<sub>x</sub></u> | <u>d<sub>x</sub></u> | <u>q<sub>x</sub></u> | <u>e<sub>x</sub></u> |
|------------------|----------------------|----------------------|----------------------|----------------------|
| <10              | *                    | *                    | *                    | *                    |
| 10-19            | 1000                 | 0                    | 0.000                | 28.4                 |
| 20-29            | 1000                 | 385                  | 0.385                | 18.4                 |
| 30-39            | 615                  | 138                  | 0.224                | 16.8                 |
| 40-49            | 477                  | 277                  | 0.581                | 10.2                 |
| 50-59            | 200                  | 154                  | 0.770                | 7.3                  |
| 60-69            | 46                   | 46                   | 1.000                | 5.0                  |

Appendix A - A summary of age-specific desertion statistics

NORTH DAKOTA

| <u>Hunter's Age</u> | <u>No. Active Hunters</u> | <u>% of all Hunters</u> | <u>No. Dropouts</u> | <u>Average annual dropout rate</u> |
|---------------------|---------------------------|-------------------------|---------------------|------------------------------------|
| <10                 | 4                         | 0.6                     | 2                   | 0.333                              |
| 10-19               | 151                       | 21.7                    | 21                  | 0.122                              |
| 20-29               | 222                       | 31.9                    | 35                  | 0.136                              |
| 30-39               | 149                       | 21.4                    | 22                  | 0.129                              |
| 40-49               | 73                        | 10.5                    | 16                  | 0.180                              |
| 50-59               | 56                        | 8.0                     | 7                   | 0.111                              |
| 60-69               | 33                        | 4.7                     | 6                   | 0.154                              |
| 70-79               | 8                         | 1.1                     | 4                   | 0.333                              |
| 80-89               | <u>1</u>                  | <u>0.1</u>              | <u>0</u>            | <u>0.000</u>                       |
|                     | 697                       | 100                     | 113                 | 0.140                              |

Life Table based on age of dropouts:

| <u>Age Class</u> | <u><math>l_x</math></u> | <u><math>d_x</math></u> | <u><math>q_x</math></u> | <u><math>e_x</math></u> |
|------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| <10              | 1000                    | 18                      | 0.018                   | 33.3                    |
| 10-19            | 982                     | 186                     | 0.189                   | 23.8                    |
| 20-29            | 796                     | 309                     | 0.388                   | 18.2                    |
| 30-39            | 487                     | 195                     | 0.400                   | 16.6                    |
| 40-49            | 292                     | 142                     | 0.486                   | 14.4                    |
| 50-59            | 150                     | 62                      | 0.413                   | 13.3                    |
| 60-69            | 88                      | 53                      | 0.602                   | 9.1                     |
| 70-79            | 35                      | 35                      | 1.000                   | 5.0                     |

Life Table based on age structure of active hunters:

| <u>Age Class</u> | <u><math>l_x</math></u> | <u><math>d_x</math></u> | <u><math>q_x</math></u> | <u><math>e_x</math></u> |
|------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| <10              | *                       | *                       | *                       | *                       |
| 10-19            | 1000                    | 355                     | 0.355                   | 18.1                    |
| 20-29            | 645                     | 336                     | 0.521                   | 15.4                    |
| 30-39            | 309                     | 106                     | 0.343                   | 16.6                    |
| 40-49            | 203                     | 77                      | 0.379                   | 12.7                    |
| 50-59            | 126                     | 106                     | 0.841                   | 7.4                     |
| 60-69            | 20                      | 10                      | 0.500                   | 10.0                    |
| 70-79            | 10                      | 10                      | 1.000                   | 5.0                     |

Appendix A - A summary of age-specific desertion statistics

NEBRASKA

| <u>Hunter's Age</u> | <u>No. Active Hunters</u> | <u>% of all Hunters</u> | <u>No. Dropouts</u> | <u>Average annual dropout rate</u> |
|---------------------|---------------------------|-------------------------|---------------------|------------------------------------|
| <10                 | 15                        | 2.6                     | 1                   | 0.063                              |
| 10-19               | 142                       | 24.4                    | 13                  | 0.084                              |
| 20-29               | 179                       | 30.8                    | 29                  | 0.139                              |
| 30-39               | 106                       | 18.2                    | 25                  | 0.191                              |
| 40-49               | 55                        | 9.5                     | 11                  | 0.167                              |
| 50-59               | 43                        | 7.4                     | 12                  | 0.218                              |
| 60-69               | 28                        | 4.8                     | 5                   | 0.152                              |
| 70-79               | <u>14</u>                 | <u>2.4</u>              | <u>4</u>            | <u>0.222</u>                       |
|                     | 582                       | 100                     | 100                 | 0.147                              |

Life Table based on age of dropouts:

| <u>Age Class</u> | <u><math>l_x</math></u> | <u><math>d_x</math></u> | <u><math>q_x</math></u> | <u><math>e_x</math></u> |
|------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| <10              | 1000                    | 10                      | 0.010                   | 35.8                    |
| 10-19            | 990                     | 130                     | 0.131                   | 26.1                    |
| 20-29            | 860                     | 290                     | 0.337                   | 19.3                    |
| 30-39            | 570                     | 250                     | 0.439                   | 16.6                    |
| 40-49            | 320                     | 110                     | 0.344                   | 15.6                    |
| 50-59            | 210                     | 120                     | 0.571                   | 11.2                    |
| 60-69            | 90                      | 50                      | 0.555                   | 9.4                     |
| 70-79            | 40                      | 40                      | 1.000                   | 5.0                     |

Life Table based on age structure of active hunters:

| <u>Age Class</u> | <u><math>l_x</math></u> | <u><math>d_x</math></u> | <u><math>q_x</math></u> | <u><math>e_x</math></u> |
|------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| <10              | *                       | *                       | *                       | *                       |
| 10-19            | 1000                    | 273                     | 0.273                   | 20.9                    |
| 20-29            | 727                     | 364                     | 0.501                   | 16.9                    |
| 30-39            | 363                     | 121                     | 0.333                   | 18.8                    |
| 40-49            | 242                     | 45                      | 0.186                   | 15.7                    |
| 50-59            | 197                     | 136                     | 0.690                   | 8.1                     |
| 60-69            | 61                      | 61                      | 1.000                   | 5.0                     |

Appendix A - A summary of age-specific desertion statistics

NEVADA

| <u>Hunter's Age</u> | <u>No. Active Hunters</u> | <u>% of all Hunters</u> | <u>No. Dropouts</u> | <u>Average annual dropout rate</u> |
|---------------------|---------------------------|-------------------------|---------------------|------------------------------------|
| <10                 | 4                         | 1.2                     | 1                   | 0.200                              |
| 10-19               | 59                        | 17.8                    | 15                  | 0.203                              |
| 20-29               | 91                        | 27.5                    | 28                  | 0.235                              |
| 30-39               | 75                        | 22.7                    | 33                  | 0.306                              |
| 40-49               | 50                        | 15.1                    | 19                  | 0.275                              |
| 50-59               | 31                        | 9.4                     | 15                  | 0.326                              |
| 60-69               | 15                        | 4.5                     | 10                  | 0.400                              |
| 70-79               | <u>6</u>                  | <u>1.8</u>              | <u>1</u>            | <u>0.143</u>                       |
|                     | 331                       | 100                     | 122                 | 0.269                              |

Life Table based on age of dropouts:

| <u>Age Class</u> | <u><math>l_x</math></u> | <u><math>d_x</math></u> | <u><math>q_x</math></u> | <u><math>e_x</math></u> |
|------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| <10              | 1000                    | 8                       | 0.008                   | 36.8                    |
| 10-19            | 992                     | 123                     | 0.124                   | 27.1                    |
| 20-29            | 869                     | 230                     | 0.265                   | 20.2                    |
| 30-39            | 639                     | 270                     | 0.423                   | 15.6                    |
| 40-49            | 369                     | 156                     | 0.423                   | 13.4                    |
| 50-59            | 213                     | 123                     | 0.577                   | 9.6                     |
| 60-69            | 90                      | 82                      | 0.911                   | 5.9                     |
| 70-79            | 8                       | 8                       | 1.000                   | 5.0                     |

Life Table based on age structure of active hunters:

| <u>Age Class</u> | <u><math>l_x</math></u> | <u><math>d_x</math></u> | <u><math>q_x</math></u> | <u><math>e_x</math></u> |
|------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| <10              | *                       | *                       | *                       | *                       |
| 10-19            | 1000                    | 30                      | 0.030                   | 29.9                    |
| 20-29            | 970                     | 91                      | 0.094                   | 20.6                    |
| 30-39            | 879                     | 455                     | 0.518                   | 12.2                    |
| 40-49            | 424                     | 242                     | 0.571                   | 10.0                    |
| 50-59            | 182                     | 152                     | 0.835                   | 6.6                     |
| 60-69            | 30                      | 30                      | 1.000                   | 5.0                     |

Appendix A - A summary of age-specific desertion statistics

NEW HAMPSHIRE

| <u>Hunter's Age</u> | <u>No. Active Hunters</u> | <u>% of all Hunters</u> | <u>No. Dropouts</u> | <u>Average annual dropout rate</u> |
|---------------------|---------------------------|-------------------------|---------------------|------------------------------------|
| <10                 | 8                         | 2.1                     | 0                   | 0.000                              |
| 10-19               | 59                        | 15.3                    | 4                   | 0.063                              |
| 20-29               | 92                        | 23.9                    | 16                  | 0.148                              |
| 30-39               | 88                        | 22.9                    | 17                  | 0.162                              |
| 40-49               | 56                        | 14.5                    | 8                   | 0.125                              |
| 50-59               | 41                        | 10.6                    | 8                   | 0.163                              |
| 60-69               | 30                        | 7.8                     | 2                   | 0.063                              |
| 70-79               | 10                        | 2.6                     | 3                   | 0.231                              |
| 80-89               | <u>1</u>                  | <u>0.3</u>              | <u>0</u>            | <u>0.000</u>                       |
|                     | 385                       | 100                     | 58                  | 0.169                              |

Life Table based on age of dropouts:

| <u>Age Class</u> | <u><math>l_x</math></u> | <u><math>d_x</math></u> | <u><math>q_x</math></u> | <u><math>e_x</math></u> |
|------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| <10              | 1000                    | 0                       | 0.000                   | 38.1                    |
| 10-19            | 1000                    | 69                      | 0.069                   | 28.1                    |
| 20-29            | 931                     | 276                     | 0.296                   | 19.8                    |
| 30-39            | 655                     | 293                     | 0.447                   | 16.1                    |
| 40-49            | 362                     | 138                     | 0.381                   | 15.0                    |
| 50-59            | 224                     | 138                     | 0.616                   | 11.2                    |
| 60-69            | 86                      | 34                      | 0.395                   | 11.0                    |
| 70-79            | 52                      | 52                      | 1.000                   | 5.0                     |

Life Table based on age structure of active hunters:

| <u>Age Class</u> | <u><math>l_x</math></u> | <u><math>d_x</math></u> | <u><math>q_x</math></u> | <u><math>e_x</math></u> |
|------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| <10              | *                       | *                       | *                       | *                       |
| 10-19            | 1000                    | 200                     | 0.200                   | 25.5                    |
| 20-29            | 800                     | 200                     | 0.250                   | 20.7                    |
| 30-39            | 600                     | 200                     | 0.333                   | 15.9                    |
| 40-49            | 400                     | 200                     | 0.500                   | 11.4                    |
| 50-59            | 200                     | 164                     | 0.820                   | 7.7                     |
| 60-69            | 36                      | 18                      | 0.500                   | 10.0                    |
| 70-79            | 18                      | 18                      | 1.000                   | 5.0                     |

Appendix A - A summary of age-specific desertion statistics

NEW JERSEY

| <u>Hunter's Age</u> | <u>No. Active Hunters</u> | <u>% of all Hunters</u> | <u>No. Dropouts</u> | <u>Average annual dropout rate</u> |
|---------------------|---------------------------|-------------------------|---------------------|------------------------------------|
| <10                 | 1                         | 0.3                     | 0                   | 0.000                              |
| 10-19               | 67                        | 20.2                    | 4                   | 0.056                              |
| 20-29               | 89                        | 26.9                    | 13                  | 0.127                              |
| 30-39               | 71                        | 21.5                    | 18                  | 0.202                              |
| 40-49               | 42                        | 12.7                    | 15                  | 0.263                              |
| 50-59               | 30                        | 9.1                     | 6                   | 0.167                              |
| 60-69               | 22                        | 6.6                     | 1                   | 0.043                              |
| 70-79               | 7                         | 2.1                     | 3                   | 0.300                              |
| 80-89               | <u>2</u>                  | <u>0.6</u>              | <u>0</u>            | <u>0.000</u>                       |
|                     | 331                       | 100                     | 60                  | 0.153                              |

Life Table based on age of dropouts:

| <u>Age Class</u> | <u><math>l_x</math></u> | <u><math>d_x</math></u> | <u><math>q_x</math></u> | <u><math>e_x</math></u> |
|------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| <10              | 1000                    | 0                       | 0.000                   | 38.5                    |
| 10-19            | 1000                    | 67                      | 0.067                   | 28.5                    |
| 20-29            | 933                     | 217                     | 0.233                   | 20.2                    |
| 30-39            | 716                     | 299                     | 0.418                   | 14.8                    |
| 40-49            | 417                     | 250                     | 0.600                   | 11.8                    |
| 50-59            | 167                     | 100                     | 0.599                   | 12.0                    |
| 60-69            | 67                      | 17                      | 0.254                   | 12.5                    |
| 70-79            | 50                      | 50                      | 1.000                   | 5.0                     |

Life Table based on age structure of active hunters:

| <u>Age Class</u> | <u><math>l_x</math></u> | <u><math>d_x</math></u> | <u><math>q_x</math></u> | <u><math>e_x</math></u> |
|------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| <10              | 1000                    | 186                     | 0.186                   | 31.3                    |
| 10-19            | 814                     | 0                       | 0.000                   | 27.3                    |
| 20-29            | 814                     | 395                     | 0.485                   | 17.3                    |
| 30-39            | 419                     | 0                       | 0.000                   | 18.9                    |
| 40-49            | 419                     | 326                     | 0.778                   | 8.9                     |
| 50-59            | 93                      | 23                      | 0.247                   | 12.6                    |
| 60-69            | 70                      | 70                      | 1.000                   | 5.0                     |

Appendix A - A summary of age-specific desertion statistics

NEW MEXICO

| <u>Hunter's Age</u> | <u>No. Active Hunters</u> | <u>% of all Hunters</u> | <u>No. Dropouts</u> | <u>Average annual dropout rate</u> |
|---------------------|---------------------------|-------------------------|---------------------|------------------------------------|
| <10                 | 3                         | 0.7                     | 3                   | 0.500                              |
| 10-19               | 91                        | 21.6                    | 27                  | 0.229                              |
| 20-29               | 109                       | 25.8                    | 49                  | 0.310                              |
| 30-39               | 93                        | 22.0                    | 22                  | 0.191                              |
| 40-49               | 67                        | 15.9                    | 15                  | 0.183                              |
| 50-59               | 40                        | 9.5                     | 16                  | 0.286                              |
| 60-69               | 13                        | 3.1                     | 13                  | 0.500                              |
| 70-79               | 6                         | 1.4                     | 2                   | 0.250                              |
| 80-89               | <u>0</u>                  | <u>0</u>                | <u>1</u>            | <u>1.000</u>                       |
|                     | 422                       | 100                     | 148                 | 0.260                              |

Life Table based on age of dropouts:

| <u>Age Class</u> | <u><math>l_x</math></u> | <u><math>d_x</math></u> | <u><math>q_x</math></u> | <u><math>e_x</math></u> |
|------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| <10              | 1000                    | 20                      | 0.020                   | 34.2                    |
| 10-19            | 980                     | 182                     | 0.186                   | 24.8                    |
| 20-29            | 798                     | 331                     | 0.415                   | 19.3                    |
| 30-39            | 467                     | 149                     | 0.319                   | 19.4                    |
| 40-49            | 318                     | 101                     | 0.318                   | 16.2                    |
| 50-59            | 217                     | 108                     | 0.498                   | 11.3                    |
| 60-69            | 109                     | 88                      | 0.807                   | 7.6                     |
| 70-79            | 21                      | 14                      | 0.667                   | 8.6                     |
| 80-89            | 7                       | 7                       | 1.000                   | 5.0                     |

Life Table based on age structure of active hunters:

| <u>Age Class</u> | <u><math>l_x</math></u> | <u><math>d_x</math></u> | <u><math>q_x</math></u> | <u><math>e_x</math></u> |
|------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| <10              | 1000                    | 38                      | 0.038                   | 32.0                    |
| 10-19            | 962                     | 189                     | 0.196                   | 23.0                    |
| 20-29            | 773                     | 264                     | 0.342                   | 17.5                    |
| 30-39            | 509                     | 226                     | 0.444                   | 13.9                    |
| 40-49            | 283                     | 151                     | 0.534                   | 11.0                    |
| 50-59            | 132                     | 94                      | 0.712                   | 7.9                     |
| 60-69            | 38                      | 38                      | 1.000                   | 5.0                     |

Appendix A - A summary of age-specific desertion statistics

NEW YORK

| <u>Hunter's Age</u> | <u>No. Active Hunters</u> | <u>% of all Hunters</u> | <u>No. Dropouts</u> | <u>Average annual dropout rate</u> |
|---------------------|---------------------------|-------------------------|---------------------|------------------------------------|
| <10                 | 10                        | 2.2                     | 0                   | 0.000                              |
| 10-19               | 73                        | 15.7                    | 8                   | 0.099                              |
| 20-29               | 104                       | 22.4                    | 29                  | 0.218                              |
| 30-39               | 111                       | 23.9                    | 17                  | 0.144                              |
| 40-49               | 74                        | 15.9                    | 13                  | 0.149                              |
| 50-59               | 49                        | 10.6                    | 8                   | 0.140                              |
| 60-69               | 34                        | 7.3                     | 6                   | 0.150                              |
| 70-79               | 9                         | 1.9                     | 2                   | 0.182                              |
| 80-89               | <u>0</u>                  | <u>0</u>                | <u>2</u>            | <u>1.000</u>                       |
|                     | 464                       | 100                     | 83                  | 0.155                              |

Life Table based on age of dropouts:

| <u>Age Class</u> | <u><math>l_x</math></u> | <u><math>d_x</math></u> | <u><math>q_x</math></u> | <u><math>e_x</math></u> |
|------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| <10              | 1000                    | 0                       | 0.000                   | 37.4                    |
| 10-19            | 1000                    | 94                      | 0.094                   | 27.4                    |
| 20-29            | 906                     | 340                     | 0.375                   | 19.8                    |
| 30-39            | 566                     | 200                     | 0.353                   | 18.6                    |
| 40-49            | 366                     | 153                     | 0.418                   | 16.1                    |
| 50-59            | 213                     | 94                      | 0.441                   | 14.8                    |
| 60-69            | 119                     | 71                      | 0.597                   | 11.1                    |
| 70-79            | 48                      | 24                      | 0.500                   | 10.8                    |
| 80-89            | 24                      | 24                      | 1.000                   | 5.0                     |

Life Table based on age structure of active hunters:

| <u>Age Class</u> | <u><math>l_x</math></u> | <u><math>d_x</math></u> | <u><math>q_x</math></u> | <u><math>e_x</math></u> |
|------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| <10              | *                       | *                       | *                       | *                       |
| 10-19            | 1000                    | 437                     | 0.437                   | 20.2                    |
| 20-29            | 563                     | 169                     | 0.300                   | 22.0                    |
| 30-39            | 394                     | 28                      | 0.071                   | 19.3                    |
| 40-49            | 366                     | 197                     | 0.538                   | 10.4                    |
| 50-59            | 169                     | 141                     | 0.834                   | 6.7                     |
| 60-69            | 28                      | 28                      | 1.000                   | 5.0                     |

Appendix A - A summary of age-specific desertion statistics

OHIO

| <u>Hunter's Age</u> | <u>No. Active Hunters</u> | <u>% of all Hunters</u> | <u>No. Dropouts</u> | <u>Average annual dropout rate</u> |
|---------------------|---------------------------|-------------------------|---------------------|------------------------------------|
| <10                 | 4                         | 0.8                     | 2                   | 0.333                              |
| 10-19               | 95                        | 18.2                    | 16                  | 0.144                              |
| 20-29               | 156                       | 29.8                    | 47                  | 0.232                              |
| 30-39               | 110                       | 21.0                    | 27                  | 0.197                              |
| 40-49               | 65                        | 12.4                    | 12                  | 0.156                              |
| 50-59               | 53                        | 10.1                    | 15                  | 0.221                              |
| 60-69               | 28                        | 5.4                     | 7                   | 0.200                              |
| 70-79               | 11                        | 2.1                     | 3                   | 0.214                              |
| 80-89               | <u>1</u>                  | <u>0.2</u>              | <u>0</u>            | <u>0.000</u>                       |
|                     | 523                       | 100                     | 129                 | 0.198                              |

Life Table based on age of dropouts:

| <u>Age Class</u> | <u><math>l_x</math></u> | <u><math>d_x</math></u> | <u><math>q_x</math></u> | <u><math>e_x</math></u> |
|------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| <10              | 1000                    | 16                      | 0.016                   | 34.2                    |
| 10-19            | 984                     | 124                     | 0.126                   | 24.7                    |
| 20-29            | 860                     | 365                     | 0.424                   | 17.5                    |
| 30-39            | 495                     | 209                     | 0.422                   | 16.7                    |
| 40-49            | 286                     | 93                      | 0.325                   | 15.3                    |
| 50-59            | 193                     | 116                     | 0.601                   | 10.2                    |
| 60-69            | 77                      | 54                      | 0.701                   | 8.1                     |
| 70-79            | 23                      | 23                      | 1.000                   | 5.0                     |

Life Table based on age structure of active hunters:

| <u>Age Class</u> | <u><math>l_x</math></u> | <u><math>d_x</math></u> | <u><math>q_x</math></u> | <u><math>e_x</math></u> |
|------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| <10              | *                       | *                       | *                       | *                       |
| 10-19            | 1000                    | 383                     | 0.383                   | 19.0                    |
| 20-29            | 617                     | 255                     | 0.413                   | 17.7                    |
| 30-39            | 362                     | 105                     | 0.290                   | 16.7                    |
| 40-49            | 257                     | 128                     | 0.498                   | 11.4                    |
| 50-59            | 129                     | 105                     | 0.814                   | 7.8                     |
| 60-69            | 24                      | 12                      | 0.500                   | 10.0                    |
| 70-79            | 12                      | 12                      | 1.000                   | 5.0                     |

Appendix A - A summary of age-specific desertion statistics

OKLAHOMA

| <u>Hunter's Age</u> | <u>No. Active Hunters</u> | <u>% of all Hunters</u> | <u>No. Dropouts</u> | <u>Average annual dropout rate</u> |
|---------------------|---------------------------|-------------------------|---------------------|------------------------------------|
| <10                 | 9                         | 1.5                     | 1                   | 0.100                              |
| 10-19               | 122                       | 20.8                    | 24                  | 0.164                              |
| 20-29               | 162                       | 27.6                    | 28                  | 0.147                              |
| 30-39               | 110                       | 18.7                    | 28                  | 0.203                              |
| 40-49               | 79                        | 13.5                    | 20                  | 0.202                              |
| 50-59               | 59                        | 10.1                    | 14                  | 0.192                              |
| 60-69               | 33                        | 5.6                     | 8                   | 0.195                              |
| 70-79               | 11                        | 1.9                     | 1                   | 0.083                              |
| 80-89               | <u>2</u>                  | <u>0.3</u>              | <u>1</u>            | <u>0.333</u>                       |
|                     | 587                       | 100                     | 125                 | 0.176                              |

Life Table based on age of dropouts:

| <u>Age Class</u> | <u><math>l_x</math></u> | <u><math>d_x</math></u> | <u><math>q_x</math></u> | <u><math>e_x</math></u> |
|------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| <10              | 1000                    | 8                       | 0.008                   | 35.2                    |
| 10-19            | 992                     | 192                     | 0.194                   | 25.4                    |
| 20-29            | 800                     | 224                     | 0.280                   | 20.3                    |
| 30-39            | 576                     | 224                     | 0.389                   | 16.3                    |
| 40-49            | 352                     | 160                     | 0.455                   | 13.4                    |
| 50-59            | 192                     | 112                     | 0.583                   | 10.4                    |
| 60-69            | 80                      | 64                      | 0.800                   | 8.0                     |
| 70-79            | 16                      | 8                       | 0.500                   | 10.0                    |
| 80-89            | 8                       | 8                       | 1.000                   | 5.0                     |

Life Table based on age structure of active hunters:

| <u>Age Class</u> | <u><math>l_x</math></u> | <u><math>d_x</math></u> | <u><math>q_x</math></u> | <u><math>e_x</math></u> |
|------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| <10              | *                       | *                       | *                       | *                       |
| 10-19            | 1000                    | 200                     | 0.200                   | 24.7                    |
| 20-29            | 800                     | 229                     | 0.286                   | 19.7                    |
| 30-39            | 571                     | 271                     | 0.475                   | 15.6                    |
| 40-49            | 300                     | 114                     | 0.380                   | 15.1                    |
| 50-59            | 186                     | 114                     | 0.613                   | 11.2                    |
| 60-69            | 72                      | 29                      | 0.403                   | 11.1                    |
| 70-79            | 43                      | 43                      | 1.000                   | 5.0                     |

Appendix A - A summary of age-specific desertion statistics

OREGON

| <u>Hunter's Age</u> | <u>No. Active Hunters</u> | <u>% of all Hunters</u> | <u>No. Dropouts</u> | <u>Average annual dropout rate</u> |
|---------------------|---------------------------|-------------------------|---------------------|------------------------------------|
| <10                 | 4                         | 0.6                     | 3                   | 0.429                              |
| 10-19               | 123                       | 16.9                    | 10                  | 0.075                              |
| 20-29               | 182                       | 25.0                    | 36                  | 0.165                              |
| 30-39               | 159                       | 21.9                    | 24                  | 0.131                              |
| 40-49               | 84                        | 11.6                    | 15                  | 0.152                              |
| 50-59               | 76                        | 10.5                    | 13                  | 0.146                              |
| 60-69               | 69                        | 9.5                     | 7                   | 0.092                              |
| 70-79               | 26                        | 3.6                     | 7                   | 0.212                              |
| 80-89               | <u>4</u>                  | <u>0.6</u>              | <u>1</u>            | <u>0.200</u>                       |
|                     | 727                       | 100                     | 116                 | 0.138                              |

Life Table based on age of dropouts:

| <u>Age Class</u> | <u>l<sub>x</sub></u> | <u>d<sub>x</sub></u> | <u>q<sub>x</sub></u> | <u>e<sub>x</sub></u> |
|------------------|----------------------|----------------------|----------------------|----------------------|
| <10              | 1000                 | 26                   | 0.026                | 37.6                 |
| 10-19            | 974                  | 86                   | 0.088                | 28.5                 |
| 20-29            | 888                  | 311                  | 0.350                | 10.7                 |
| 30-39            | 577                  | 207                  | 0.359                | 19.2                 |
| 40-49            | 370                  | 129                  | 0.349                | 17.1                 |
| 50-59            | 241                  | 112                  | 0.465                | 13.6                 |
| 60-69            | 129                  | 60                   | 0.465                | 11.1                 |
| 70-79            | 69                   | 60                   | 0.870                | 6.4                  |
| 80-89            | 9                    | 9                    | 1.000                | 5.0                  |

Life Table based on age structure of active hunters:

| <u>Age Class</u> | <u>l<sub>x</sub></u> | <u>d<sub>x</sub></u> | <u>q<sub>x</sub></u> | <u>e<sub>x</sub></u> |
|------------------|----------------------|----------------------|----------------------|----------------------|
| <10              | *                    | *                    | *                    | *                    |
| 10-19            | 1000                 | 26                   | 0.026                | 30.9                 |
| 20-29            | 974                  | 250                  | 0.257                | 21.6                 |
| 30-39            | 724                  | 250                  | 0.345                | 17.4                 |
| 40-49            | 474                  | 211                  | 0.445                | 13.9                 |
| 50-59            | 263                  | 118                  | 0.449                | 11.0                 |
| 60-69            | 145                  | 132                  | 0.910                | 5.9                  |
| 70-79            | 13                   | 13                   | 1.000                | 5.0                  |

Appendix A - A summary of age-specific desertion statistics

PENNSYLVANIA

| <u>Hunter's Age</u> | <u>No. Active Hunters</u> | <u>% of all Hunters</u> | <u>No. Dropouts</u> | <u>Average annual dropout rate</u> |
|---------------------|---------------------------|-------------------------|---------------------|------------------------------------|
| <10                 | 2                         | 0.2                     | 1                   | 0.333                              |
| 10-19               | 210                       | 22.6                    | 20                  | 0.087                              |
| 20-29               | 218                       | 23.4                    | 34                  | 0.135                              |
| 30-39               | 188                       | 20.2                    | 30                  | 0.138                              |
| 40-49               | 123                       | 13.2                    | 20                  | 0.140                              |
| 50-59               | 99                        | 10.6                    | 15                  | 0.132                              |
| 60-69               | 67                        | 7.2                     | 11                  | 0.125                              |
| 70-79               | 21                        | 2.3                     | 9                   | 0.300                              |
| 80-89               | <u>2</u>                  | <u>0.2</u>              | <u>1</u>            | <u>0.333</u>                       |
|                     | 930                       | 100                     | 141                 | 0.132                              |

Life Table based on age of dropouts:

| <u>Age Class</u> | <u><math>l_x</math></u> | <u><math>d_x</math></u> | <u><math>q_x</math></u> | <u><math>e_x</math></u> |
|------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| <10              | 1000                    | 7                       | 0.007                   | 38.3                    |
| 10-19            | 993                     | 142                     | 0.143                   | 28.6                    |
| 20-29            | 851                     | 241                     | 0.283                   | 22.5                    |
| 30-39            | 610                     | 213                     | 0.349                   | 19.4                    |
| 40-49            | 397                     | 142                     | 0.358                   | 17.2                    |
| 50-59            | 255                     | 106                     | 0.416                   | 13.9                    |
| 60-69            | 149                     | 78                      | 0.523                   | 10.3                    |
| 70-79            | 71                      | 64                      | 0.901                   | 6.1                     |
| 80-89            | 7                       | 7                       | 1.000                   | 5.0                     |

Life Table based on age structure of active hunters:

| <u>Age Class</u> | <u><math>l_x</math></u> | <u><math>d_x</math></u> | <u><math>q_x</math></u> | <u><math>e_x</math></u> |
|------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| <10              | 1000                    | 206                     | 0.206                   | 29.8                    |
| 10-19            | 794                     | 151                     | 0.190                   | 26.2                    |
| 20-29            | 643                     | 151                     | 0.235                   | 21.2                    |
| 30-39            | 492                     | 190                     | 0.386                   | 16.2                    |
| 40-49            | 302                     | 103                     | 0.341                   | 13.2                    |
| 50-59            | 199                     | 151                     | 0.759                   | 7.4                     |
| 60-69            | 48                      | 48                      | 1.000                   | 5.0                     |

Appendix A - A summary of age-specific desertion statistics

RHODE ISLAND

| <u>Hunter's Age</u> | <u>No. Active Hunters</u> | <u>% of all Hunters</u> | <u>No. Dropouts</u> | <u>Average annual dropout rate</u> |
|---------------------|---------------------------|-------------------------|---------------------|------------------------------------|
| <10                 | 2                         | 1.9                     | 0                   | 0.000                              |
| 10-19               | 26                        | 24.5                    | 9                   | 0.257                              |
| 20-29               | 30                        | 28.3                    | 11                  | 0.268                              |
| 30-39               | 26                        | 24.5                    | 7                   | 0.212                              |
| 40-49               | 12                        | 11.3                    | 5                   | 0.294                              |
| 50-59               | 6                         | 5.7                     | 7                   | 0.538                              |
| 60-69               | 3                         | 2.8                     | 1                   | 0.250                              |
| 70-79               | <u>1</u>                  | <u>0.9</u>              | <u>0</u>            | <u>0.000</u>                       |
|                     | 106                       | 100                     | 40                  | 0.274                              |

Life Table based on age of dropouts:

| <u>Age Class</u> | <u>l<sub>x</sub></u> | <u>d<sub>x</sub></u> | <u>q<sub>x</sub></u> | <u>e<sub>x</sub></u> |
|------------------|----------------------|----------------------|----------------------|----------------------|
| <10              | 1000                 | 0                    | 0.000                | 33.3                 |
| 10-19            | 1000                 | 225                  | 0.225                | 23.3                 |
| 20-29            | 775                  | 275                  | 0.355                | 18.6                 |
| 30-39            | 500                  | 175                  | 0.350                | 16.0                 |
| 40-49            | 325                  | 125                  | 0.385                | 12.0                 |
| 50-59            | 200                  | 175                  | 0.875                | 6.3                  |
| 60-69            | 25                   | 25                   | 1.000                | 5.0                  |

Life Table based on age structure of active hunters:

| <u>Age Class</u> | <u>l<sub>x</sub></u> | <u>d<sub>x</sub></u> | <u>q<sub>x</sub></u> | <u>e<sub>x</sub></u> |
|------------------|----------------------|----------------------|----------------------|----------------------|
| <10              | 1000                 | 350                  | 0.350                | 21.0                 |
| 10-19            | 650                  | 250                  | 0.385                | 19.6                 |
| 20-29            | 400                  | 100                  | 0.250                | 18.8                 |
| 30-39            | 300                  | 100                  | 0.333                | 13.3                 |
| 40-49            | 200                  | 150                  | 0.750                | 7.5                  |
| 50-59            | 50                   | 50                   | 1.000                | 5.0                  |

Appendix A - A summary of age-specific desertion statistics

SOUTH CAROLINA

| <u>Hunter's Age</u> | <u>No. Active Hunters</u> | <u>% of all Hunters</u> | <u>No. Dropouts</u> | <u>Average annual dropout rate</u> |
|---------------------|---------------------------|-------------------------|---------------------|------------------------------------|
| <10                 | 7                         | 1.6                     | 1                   | 0.125                              |
| 10-19               | 87                        | 20.3                    | 4                   | 0.044                              |
| 20-29               | 133                       | 31.1                    | 26                  | 0.164                              |
| 30-39               | 84                        | 19.6                    | 15                  | 0.152                              |
| 40-49               | 44                        | 10.3                    | 15                  | 0.254                              |
| 50-59               | 39                        | 9.1                     | 2                   | 0.049                              |
| 60-69               | 25                        | 5.8                     | 2                   | 0.074                              |
| 70-79               | 8                         | 1.9                     | 2                   | 0.200                              |
| 80-89               | <u>1</u>                  | <u>0.2</u>              | <u>0</u>            | <u>0.000</u>                       |
|                     | 428                       | 100                     | 67                  | 0.135                              |

Life Table based on age of dropouts:

| <u>Age Class</u> | <u><math>l_x</math></u> | <u><math>d_x</math></u> | <u><math>q_x</math></u> | <u><math>e_x</math></u> |
|------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| <10              | 1000                    | 15                      | 0.015                   | 34.4                    |
| 10-19            | 985                     | 60                      | 0.061                   | 24.9                    |
| 20-29            | 925                     | 387                     | 0.418                   | 16.2                    |
| 30-39            | 538                     | 224                     | 0.416                   | 14.2                    |
| 40-49            | 314                     | 224                     | 0.713                   | 10.7                    |
| 50-59            | 90                      | 30                      | 0.333                   | 15.0                    |
| 60-69            | 60                      | 30                      | 0.500                   | 10.0                    |
| 70-79            | 30                      | 30                      | 1.000                   | 5.0                     |

Life Table based on age structure of active hunters:

| <u>Age Class</u> | <u><math>l_x</math></u> | <u><math>d_x</math></u> | <u><math>q_x</math></u> | <u><math>e_x</math></u> |
|------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| <10              | *                       | *                       | *                       | *                       |
| 10-19            | 1000                    | 217                     | 0.217                   | 21.7                    |
| 20-29            | 783                     | 450                     | 0.575                   | 16.3                    |
| 30-39            | 333                     | 33                      | 0.099                   | 21.6                    |
| 40-49            | 300                     | 83                      | 0.277                   | 13.4                    |
| 50-59            | 217                     | 200                     | 0.922                   | 6.6                     |
| 60-69            | 17                      | 0                       | 0.000                   | 15.3                    |
| 70-79            | 17                      | 17                      | 1.000                   | 5.0                     |

Appendix A - A summary of age-specific desertion statistics

SOUTH DAKOTA

| <u>Hunter's Age</u> | <u>No. Active Hunters</u> | <u>% of all Hunters</u> | <u>No. Dropouts</u> | <u>Average annual dropout rate</u> |
|---------------------|---------------------------|-------------------------|---------------------|------------------------------------|
| <10                 | 14                        | 1.5                     | 0                   | 0.000                              |
| 10-19               | 200                       | 21.9                    | 17                  | 0.078                              |
| 20-29               | 249                       | 27.3                    | 37                  | 0.129                              |
| 30-39               | 183                       | 20.0                    | 22                  | 0.107                              |
| 40-49               | 104                       | 11.4                    | 20                  | 0.161                              |
| 50-59               | 90                        | 9.9                     | 15                  | 0.143                              |
| 60-69               | 58                        | 6.4                     | 9                   | 0.134                              |
| 70-79               | 12                        | 1.3                     | 4                   | 0.250                              |
| 80-89               | <u>3</u>                  | <u>0.3</u>              | <u>0</u>            | <u>0.000</u>                       |
|                     | 913                       | 100                     | 124                 | 0.120                              |

Life Table based on age of dropouts:

| <u>Age Class</u> | <u>l<sub>x</sub></u> | <u>d<sub>x</sub></u> | <u>q<sub>x</sub></u> | <u>e<sub>x</sub></u> |
|------------------|----------------------|----------------------|----------------------|----------------------|
| <10              | 1000                 | 0                    | 0.000                | 36.8                 |
| 10-19            | 1000                 | 137                  | 0.137                | 26.8                 |
| 20-29            | 863                  | 299                  | 0.346                | 20.3                 |
| 30-39            | 564                  | 177                  | 0.314                | 18.3                 |
| 40-49            | 387                  | 161                  | 0.416                | 14.4                 |
| 50-59            | 226                  | 121                  | 0.535                | 11.1                 |
| 60-69            | 105                  | 73                   | 0.695                | 8.1                  |
| 70-79            | 32                   | 32                   | 1.000                | 5.0                  |

Life Table based on age structure of active hunters:

| <u>Age Class</u> | <u>l<sub>x</sub></u> | <u>d<sub>x</sub></u> | <u>q<sub>x</sub></u> | <u>e<sub>x</sub></u> |
|------------------|----------------------|----------------------|----------------------|----------------------|
| <10              | 1000                 | 99                   | 0.099                | 29.4                 |
| 10-19            | 901                  | 244                  | 0.271                | 22.1                 |
| 20-29            | 657                  | 260                  | 0.396                | 18.4                 |
| 30-39            | 397                  | 99                   | 0.249                | 17.2                 |
| 40-49            | 298                  | 145                  | 0.487                | 11.2                 |
| 50-59            | 153                  | 130                  | 0.850                | 7.1                  |
| 60-69            | 23                   | 15                   | 0.652                | 8.7                  |
| 70-79            | 8                    | 8                    | 1.000                | 5.0                  |

Appendix A - A summary of age-specific desertion statistics

TENNESSEE

| <u>Hunter's Age</u> | <u>No. Active Hunters</u> | <u>% of all Hunters</u> | <u>No. Dropouts</u> | <u>Average annual dropout rate</u> |
|---------------------|---------------------------|-------------------------|---------------------|------------------------------------|
| <10                 | 10                        | 1.5                     | 10                  | 0.500                              |
| 10-19               | 148                       | 21.7                    | 31                  | 0.173                              |
| 20-29               | 160                       | 23.5                    | 50                  | 0.238                              |
| 30-39               | 140                       | 20.5                    | 42                  | 0.231                              |
| 40-49               | 90                        | 13.2                    | 28                  | 0.237                              |
| 50-59               | 78                        | 11.4                    | 16                  | 0.170                              |
| 60-69               | 41                        | 6.0                     | 13                  | 0.241                              |
| 70-79               | 14                        | 2.1                     | 6                   | 0.300                              |
| 80-89               | <u>1</u>                  | <u>0.1</u>              | <u>0</u>            | <u>0.000</u>                       |
|                     | 682                       | 100                     | 196                 | 0.223                              |

Life Table based on age of dropouts:

| <u>Age Class</u> | <u>l<sub>x</sub></u> | <u>d<sub>x</sub></u> | <u>q<sub>x</sub></u> | <u>e<sub>x</sub></u> |
|------------------|----------------------|----------------------|----------------------|----------------------|
| <10              | 1000                 | 51                   | 0.051                | 34.1                 |
| 10-19            | 949                  | 158                  | 0.166                | 25.6                 |
| 20-29            | 791                  | 255                  | 0.322                | 19.7                 |
| 30-39            | 536                  | 214                  | 0.399                | 16.8                 |
| 40-49            | 322                  | 143                  | 0.444                | 14.6                 |
| 50-59            | 179                  | 82                   | 0.458                | 12.2                 |
| 60-69            | 97                   | 66                   | 0.680                | 8.2                  |
| 70-79            | 31                   | 31                   | 1.000                | 5.0                  |

Life Table based on age structure of active hunters:

| <u>Age Class</u> | <u>l<sub>x</sub></u> | <u>d<sub>x</sub></u> | <u>q<sub>x</sub></u> | <u>e<sub>x</sub></u> |
|------------------|----------------------|----------------------|----------------------|----------------------|
| <10              | *                    | *                    | *                    | *                    |
| 10-19            | 1000                 | 365                  | 0.365                | 20.3                 |
| 20-29            | 635                  | 212                  | 0.334                | 19.1                 |
| 30-39            | 423                  | 144                  | 0.340                | 16.1                 |
| 40-49            | 279                  | 135                  | 0.484                | 11.9                 |
| 50-59            | 144                  | 96                   | 0.667                | 8.3                  |
| 60-69            | 48                   | 48                   | 1.000                | 5.0                  |

Appendix A - A summary of age-specific desertion statistics

TEXAS

| <u>Hunter's Age</u> | <u>No. Active Hunters</u> | <u>% of all Hunters</u> | <u>No. Dropouts</u> | <u>Average annual dropout rate</u> |
|---------------------|---------------------------|-------------------------|---------------------|------------------------------------|
| <10                 | 17                        | 1.6                     | 7                   | 0.292                              |
| 10-19               | 199                       | 18.3                    | 42                  | 0.298                              |
| 20-29               | 294                       | 27.1                    | 70                  | 0.192                              |
| 30-39               | 240                       | 22.1                    | 55                  | 0.186                              |
| 40-49               | 150                       | 13.8                    | 38                  | 0.202                              |
| 50-59               | 105                       | 9.7                     | 15                  | 0.125                              |
| 60-69               | 62                        | 5.7                     | 17                  | 0.215                              |
| 70-79               | 19                        | 1.7                     | 5                   | 0.208                              |
| 80-89               | <u>0</u>                  | <u>0</u>                | <u>1</u>            | <u>1.000</u>                       |
|                     | 1086                      | 100                     | 250                 | 0.187                              |

Life Table based on age of dropouts:

| <u>Age Class</u> | <u><math>l_x</math></u> | <u><math>d_x</math></u> | <u><math>q_x</math></u> | <u><math>e_x</math></u> |
|------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| <10              | 1000                    | 28                      | 0.028                   | 33.8                    |
| 10-19            | 972                     | 168                     | 0.173                   | 24.6                    |
| 20-29            | 804                     | 280                     | 0.348                   | 18.7                    |
| 30-39            | 524                     | 220                     | 0.420                   | 16.0                    |
| 40-49            | 304                     | 152                     | 0.500                   | 13.9                    |
| 50-59            | 152                     | 60                      | 0.395                   | 12.9                    |
| 60-69            | 92                      | 68                      | 0.739                   | 8.0                     |
| 70-79            | 24                      | 20                      | 0.833                   | 6.7                     |
| 80-89            | 4                       | 5                       | 1.000                   | 5.0                     |

Life Table based on age structure of active hunters:

| <u>Age Class</u> | <u><math>l_x</math></u> | <u><math>d_x</math></u> | <u><math>q_x</math></u> | <u><math>e_x</math></u> |
|------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| <10              | *                       | *                       | *                       | *                       |
| 10-19            | 1000                    | 204                     | 0.204                   | 25.3                    |
| 20-29            | 796                     | 161                     | 0.202                   | 20.5                    |
| 30-39            | 635                     | 234                     | 0.369                   | 14.4                    |
| 40-49            | 401                     | 270                     | 0.673                   | 9.9                     |
| 50-59            | 131                     | 73                      | 0.557                   | 10.1                    |
| 60-69            | 58                      | 51                      | 0.879                   | 6.4                     |
| 70-79            | 7                       | 7                       | 1.000                   | 5.0                     |

Appendix A - A summary of age-specific desertion statistics

UTAH

| <u>Hunter's Age</u> | <u>No. Active Hunters</u> | <u>% of all Hunters</u> | <u>No. Dropouts</u> | <u>Average annual dropout rate</u> |
|---------------------|---------------------------|-------------------------|---------------------|------------------------------------|
| <10                 | 21                        | 2.6                     | 1                   | 0.045                              |
| 10-19               | 144                       | 18.0                    | 32                  | 0.182                              |
| 20-29               | 252                       | 31.2                    | 60                  | 0.192                              |
| 30-39               | 166                       | 20.7                    | 38                  | 0.186                              |
| 40-49               | 95                        | 11.9                    | 22                  | 0.188                              |
| 50-59               | 69                        | 8.6                     | 16                  | 0.188                              |
| 60-69               | 44                        | 5.5                     | 9                   | 0.170                              |
| 70-79               | <u>10</u>                 | <u>1.2</u>              | <u>3</u>            | <u>0.231</u>                       |
|                     | 801                       | 100                     | 181                 | 0.184                              |

Life Table based on age of dropouts:

| <u>Age Class</u> | <u><math>l_x</math></u> | <u><math>d_x</math></u> | <u><math>q_x</math></u> | <u><math>e_x</math></u> |
|------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| <10              | 1000                    | 6                       | 0.006                   | 33.2                    |
| 10-19            | 994                     | 177                     | 0.178                   | 23.3                    |
| 20-29            | 817                     | 330                     | 0.404                   | 17.3                    |
| 30-39            | 487                     | 210                     | 0.431                   | 15.6                    |
| 40-49            | 277                     | 122                     | 0.440                   | 13.6                    |
| 50-59            | 155                     | 88                      | 0.568                   | 10.5                    |
| 60-69            | 67                      | 50                      | 0.746                   | 7.6                     |
| 70-79            | 17                      | 17                      | 1.000                   | 5.0                     |

Life Table based on age structure of active hunters:

| <u>Age Class</u> | <u><math>l_x</math></u> | <u><math>d_x</math></u> | <u><math>q_x</math></u> | <u><math>e_x</math></u> |
|------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| <10              | *                       | *                       | *                       | *                       |
| 10-19            | 1000                    | 406                     | 0.406                   | 18.4                    |
| 20-29            | 594                     | 170                     | 0.286                   | 17.5                    |
| 30-39            | 424                     | 226                     | 0.533                   | 12.6                    |
| 40-49            | 198                     | 85                      | 0.429                   | 11.2                    |
| 50-59            | 113                     | 104                     | 0.920                   | 5.8                     |
| 60-69            | 9                       | 9                       | 1.000                   | 5.0                     |

Appendix A - A summary of age-specific desertion statistics

VERMONT

| <u>Hunter's Age</u> | <u>No. Active Hunters</u> | <u>% of all Hunters</u> | <u>No. Dropouts</u> | <u>Average annual dropout rate</u> |
|---------------------|---------------------------|-------------------------|---------------------|------------------------------------|
| <10                 | 9                         | 1.1                     | 0                   | 0.000                              |
| 10-19               | 166                       | 20.4                    | 8                   | 0.046                              |
| 20-29               | 176                       | 21.7                    | 27                  | 0.133                              |
| 30-39               | 183                       | 22.5                    | 18                  | 0.090                              |
| 40-49               | 107                       | 13.2                    | 11                  | 0.093                              |
| 50-59               | 81                        | 10.0                    | 12                  | 0.129                              |
| 60-69               | 60                        | 7.4                     | 5                   | 0.077                              |
| 70-79               | 29                        | 3.6                     | 2                   | 0.065                              |
| 80-89               | <u>1</u>                  | <u>0.1</u>              | <u>0</u>            | <u>0.000</u>                       |
|                     | 812                       | 100                     | 83                  | 0.093                              |

Life Table based on age of dropouts:

| <u>Age Class</u> | <u><math>l_x</math></u> | <u><math>d_x</math></u> | <u><math>q_x</math></u> | <u><math>e_x</math></u> |
|------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| <10              | 1000                    | 0                       | 0.000                   | 36.8                    |
| 10-19            | 1000                    | 96                      | 0.096                   | 26.8                    |
| 20-29            | 904                     | 325                     | 0.360                   | 19.2                    |
| 30-39            | 579                     | 217                     | 0.375                   | 17.1                    |
| 40-49            | 362                     | 133                     | 0.367                   | 14.3                    |
| 50-59            | 229                     | 145                     | 0.633                   | 9.7                     |
| 60-69            | 84                      | 60                      | 0.714                   | 7.9                     |
| 70-79            | 24                      | 24                      | 1.000                   | 5.0                     |

Life Table based on age structure of active hunters:

| <u>Age Class</u> | <u><math>l_x</math></u> | <u><math>d_x</math></u> | <u><math>q_x</math></u> | <u><math>e_x</math></u> |
|------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| <10              | *                       | *                       | *                       | *                       |
| 10-19            | *                       | *                       | *                       | *                       |
| 20-29            | 1000                    | 366                     | 0.366                   | 18.7                    |
| 30-39            | 634                     | 168                     | 0.265                   | 16.6                    |
| 40-49            | 466                     | 228                     | 0.489                   | 10.8                    |
| 50-59            | 238                     | 208                     | 0.874                   | 6.3                     |
| 60-69            | 30                      | 30                      | 1.000                   | 5.0                     |

Appendix A - A summary of age-specific desertion statistics

VIRGINIA

| <u>Hunter's Age</u> | <u>No. Active Hunters</u> | <u>% of all Hunters</u> | <u>No. Dropouts</u> | <u>Average annual dropout rate</u> |
|---------------------|---------------------------|-------------------------|---------------------|------------------------------------|
| <10                 | 4                         | 0.7                     | 3                   | 0.429                              |
| 10-19               | 121                       | 20.9                    | 16                  | 0.117                              |
| 20-29               | 161                       | 27.8                    | 27                  | 0.144                              |
| 30-39               | 118                       | 20.3                    | 32                  | 0.213                              |
| 40-49               | 76                        | 13.1                    | 14                  | 0.156                              |
| 50-59               | 45                        | 7.8                     | 9                   | 0.167                              |
| 60-69               | 43                        | 7.4                     | 4                   | 0.085                              |
| 70-79               | 10                        | 1.7                     | 0                   | 0.000                              |
| 80-89               | <u>2</u>                  | <u>0.3</u>              | <u>0</u>            | <u>0.000</u>                       |
|                     | 580                       | 100                     | 105                 | 0.153                              |

Life Table based on age of dropouts:

| <u>Age Class</u> | <u><math>l_x</math></u> | <u><math>d_x</math></u> | <u><math>q_x</math></u> | <u><math>e_x</math></u> |
|------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| <10              | 1000                    | 29                      | 0.029                   | 32.7                    |
| 10-19            | 971                     | 152                     | 0.157                   | 23.6                    |
| 20-29            | 819                     | 257                     | 0.314                   | 17.0                    |
| 30-39            | 562                     | 305                     | 0.543                   | 12.5                    |
| 40-49            | 257                     | 133                     | 0.518                   | 11.3                    |
| 50-59            | 124                     | 86                      | 0.694                   | 8.1                     |
| 60-69            | 38                      | 38                      | 1.000                   | 5.0                     |

Life Table based on age structure of active hunters:

| <u>Age Class</u> | <u><math>l_x</math></u> | <u><math>d_x</math></u> | <u><math>q_x</math></u> | <u><math>e_x</math></u> |
|------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| <10              | *                       | *                       | *                       | *                       |
| 10-19            | 1000                    | 272                     | 0.272                   | 22.1                    |
| 20-29            | 728                     | 257                     | 0.490                   | 18.4                    |
| 30-39            | 371                     | 99                      | 0.267                   | 21.3                    |
| 40-49            | 272                     | 25                      | 0.092                   | 17.3                    |
| 50-59            | 247                     | 173                     | 0.700                   | 8.5                     |
| 60-69            | 74                      | 62                      | 0.838                   | 6.6                     |
| 70-79            | 12                      | 12                      | 1.000                   | 5.0                     |

Appendix A - A summary of age-specific desertion statistics

WASHINGTON

| <u>Hunter's Age</u> | <u>No. Active Hunters</u> | <u>% of all Hunters</u> | <u>No. Dropouts</u> | <u>Average annual dropout rate</u> |
|---------------------|---------------------------|-------------------------|---------------------|------------------------------------|
| <10                 | 4                         | 0.8                     | 0                   | 0.000                              |
| 10-19               | 93                        | 17.4                    | 23                  | 0.198                              |
| 20-29               | 150                       | 28.1                    | 37                  | 0.198                              |
| 30-39               | 124                       | 23.3                    | 28                  | 0.184                              |
| 40-49               | 78                        | 14.6                    | 18                  | 0.188                              |
| 50-59               | 49                        | 9.2                     | 17                  | 0.258                              |
| 60-69               | 21                        | 3.9                     | 8                   | 0.276                              |
| 70-79               | 13                        | 2.4                     | 2                   | 0.133                              |
| 80-89               | <u>1</u>                  | <u>0.2</u>              | <u>0</u>            | <u>0.000</u>                       |
|                     | 533                       | 100                     | 133                 | 0.200                              |

Life Table based on age of dropouts:

| <u>Age Class</u> | <u><math>l_x</math></u> | <u><math>d_x</math></u> | <u><math>q_x</math></u> | <u><math>e_x</math></u> |
|------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| <10              | 1000                    | 0                       | 0.000                   | 35.1                    |
| 10-19            | 1000                    | 173                     | 0.173                   | 25.1                    |
| 20-29            | 827                     | 278                     | 0.336                   | 19.3                    |
| 30-39            | 549                     | 211                     | 0.384                   | 16.5                    |
| 40-49            | 338                     | 135                     | 0.399                   | 13.7                    |
| 50-59            | 203                     | 128                     | 0.631                   | 9.5                     |
| 60-69            | 75                      | 60                      | 0.800                   | 7.1                     |
| 70-79            | 15                      | 15                      | 1.000                   | 5.0                     |

Life Table based on age structure of active hunters:

| <u>Age Class</u> | <u><math>l_x</math></u> | <u><math>d_x</math></u> | <u><math>q_x</math></u> | <u><math>e_x</math></u> |
|------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| <10              | *                       | *                       | *                       | *                       |
| 10-19            | 1000                    | 301                     | 0.301                   | 21.3                    |
| 20-29            | 699                     | 247                     | 0.353                   | 18.3                    |
| 30-39            | 452                     | 233                     | 0.515                   | 15.6                    |
| 40-49            | 219                     | 14                      | 0.064                   | 16.9                    |
| 50-59            | 205                     | 164                     | 0.800                   | 7.7                     |
| 60-69            | 41                      | 27                      | 0.659                   | 8.5                     |
| 70-79            | 14                      | 14                      | 1.000                   | 5.0                     |

Appendix A - A summary of age-specific desertion statistics

WEST VIRGINIA

| <u>Hunter's Age</u> | <u>No. Active Hunters</u> | <u>% of all Hunters</u> | <u>No. Dropouts</u> | <u>Average annual dropout rate</u> |
|---------------------|---------------------------|-------------------------|---------------------|------------------------------------|
| <10                 | 10                        | 1.2                     | 0                   | 0.000                              |
| 10-19               | 152                       | 18.9                    | 11                  | 0.067                              |
| 20-29               | 197                       | 24.5                    | 18                  | 0.084                              |
| 30-39               | 181                       | 22.5                    | 18                  | 0.090                              |
| 40-49               | 86                        | 10.7                    | 9                   | 0.095                              |
| 50-59               | 102                       | 12.7                    | 13                  | 0.113                              |
| 60-69               | 56                        | 7.0                     | 7                   | 0.111                              |
| 70-79               | 18                        | 2.2                     | 4                   | 0.182                              |
| 80-89               | <u>2</u>                  | <u>0.2</u>              | <u>1</u>            | <u>0.333</u>                       |
|                     | 804                       | 100                     | 81                  | 0.092                              |

Life Table based on age of dropouts:

| <u>Age Class</u> | <u><math>l_x</math></u> | <u><math>d_x</math></u> | <u><math>Q_x</math></u> | <u><math>e_x</math></u> |
|------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| <10              | 1000                    | 0                       | 0.000                   | 39.5                    |
| 10-19            | 1000                    | 136                     | 0.136                   | 29.5                    |
| 20-29            | 864                     | 223                     | 0.258                   | 23.4                    |
| 30-39            | 641                     | 223                     | 0.348                   | 19.8                    |
| 40-49            | 418                     | 111                     | 0.266                   | 17.6                    |
| 50-59            | 307                     | 160                     | 0.521                   | 12.2                    |
| 60-69            | 147                     | 86                      | 0.585                   | 10.0                    |
| 70-79            | 61                      | 49                      | 0.803                   | 7.0                     |
| 80-89            | 12                      | 12                      | 1.000                   | 5.0                     |

Life Table based on age structure of active hunters:

| <u>Age Class</u> | <u><math>l_x</math></u> | <u><math>d_x</math></u> | <u><math>Q_x</math></u> | <u><math>e_x</math></u> |
|------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| <10              | *                       | *                       | *                       | *                       |
| 10-19            | 1000                    | 206                     | 0.206                   | 25.0                    |
| 20-29            | 794                     | 317                     | 0.399                   | 20.2                    |
| 30-39            | 477                     | 75                      | 0.157                   | 20.3                    |
| 40-49            | 402                     | 103                     | 0.256                   | 13.2                    |
| 50-59            | 299                     | 271                     | 0.906                   | 6.0                     |
| 60-69            | 28                      | 28                      | 1.000                   | 5.0                     |

Appendix A - A summary of age-specific desertion statistics

WISCONSIN

| <u>Hunter's Age</u> | <u>No. Active Hunters</u> | <u>% of all Hunters</u> | <u>No. Dropouts</u> | <u>Average annual dropout rate</u> |
|---------------------|---------------------------|-------------------------|---------------------|------------------------------------|
| <10                 | 8                         | 0.9                     | 0                   | 0.000                              |
| 10-19               | 184                       | 19.7                    | 19                  | 0.094                              |
| 20-29               | 271                       | 29.1                    | 49                  | 0.153                              |
| 30-39               | 185                       | 19.8                    | 28                  | 0.131                              |
| 40-49               | 124                       | 13.3                    | 13                  | 0.095                              |
| 50-59               | 95                        | 10.2                    | 9                   | 0.087                              |
| 60-69               | 56                        | 6.0                     | 5                   | 0.082                              |
| 70-79               | 8                         | 0.9                     | 2                   | 0.200                              |
| 80-89               | <u>1</u>                  | <u>0.1</u>              | <u>0</u>            | <u>0.000</u>                       |
|                     | 932                       | 100                     | 125                 | 0.118                              |

Life Table based on age of dropouts:

| <u>Age Class</u> | <u>l<sub>x</sub></u> | <u>d<sub>x</sub></u> | <u>q<sub>x</sub></u> | <u>e<sub>x</sub></u> |
|------------------|----------------------|----------------------|----------------------|----------------------|
| <10              | 1000                 | 0                    | 0.000                | 32.4                 |
| 10-19            | 1000                 | 152                  | 0.152                | 22.4                 |
| 20-29            | 848                  | 392                  | 0.462                | 15.5                 |
| 30-39            | 456                  | 224                  | 0.491                | 14.5                 |
| 40-49            | 232                  | 104                  | 0.448                | 13.6                 |
| 50-59            | 128                  | 72                   | 0.563                | 10.6                 |
| 60-69            | 56                   | 40                   | 0.714                | 7.9                  |
| 70-79            | 16                   | 16                   | 1.000                | 5.0                  |

Life Table based on age structure of active hunters:

| <u>Age Class</u> | <u>l<sub>x</sub></u> | <u>d<sub>x</sub></u> | <u>q<sub>x</sub></u> | <u>e<sub>x</sub></u> |
|------------------|----------------------|----------------------|----------------------|----------------------|
| <10              | 1000                 | 39                   | 0.039                | 33.2                 |
| 10-19            | 961                  | 234                  | 0.243                | 24.4                 |
| 20-29            | 727                  | 86                   | 0.118                | 20.6                 |
| 30-39            | 641                  | 359                  | 0.560                | 12.7                 |
| 40-49            | 282                  | 102                  | 0.362                | 12.5                 |
| 50-59            | 180                  | 156                  | 0.867                | 6.8                  |
| 60-69            | 24                   | 16                   | 0.667                | 8.3                  |
| 70-79            | *                    | *                    | *                    | *                    |
| 80-89            | 8                    | 8                    | 1.000                | 5.0                  |

Appendix A - A summary of age-specific desertion statistics

WYOMING

| <u>Hunter's Age</u> | <u>No. Active Hunters</u> | <u>% of all Hunters</u> | <u>No. Dropouts</u> | <u>Average annual dropout rate</u> |
|---------------------|---------------------------|-------------------------|---------------------|------------------------------------|
| <10                 | 5                         | 0.5                     | 4                   | 0.444                              |
| 10-19               | 163                       | 17.3                    | 32                  | 0.164                              |
| 20-29               | 281                       | 29.8                    | 81                  | 0.224                              |
| 30-39               | 224                       | 23.7                    | 55                  | 0.197                              |
| 40-49               | 113                       | 12.0                    | 35                  | 0.236                              |
| 50-59               | 86                        | 9.1                     | 22                  | 0.204                              |
| 60-69               | 56                        | 5.9                     | 12                  | 0.176                              |
| 70-79               | 15                        | 1.6                     | 7                   | 0.318                              |
| 80-89               | <u>1</u>                  | <u>0.1</u>              | <u>1</u>            | <u>0.500</u>                       |
|                     | 944                       | 100                     | 249                 | 0.209                              |

Life Table based on age of dropouts:

| <u>Age Class</u> | <u>l<sub>x</sub></u> | <u>d<sub>x</sub></u> | <u>q<sub>x</sub></u> | <u>e<sub>x</sub></u> |
|------------------|----------------------|----------------------|----------------------|----------------------|
| <10              | 1000                 | 16                   | 0.016                | 34.6                 |
| 10-19            | 984                  | 129                  | 0.131                | 25.1                 |
| 20-29            | 855                  | 325                  | 0.380                | 18.2                 |
| 30-39            | 530                  | 221                  | 0.417                | 16.2                 |
| 40-49            | 309                  | 141                  | 0.456                | 14.2                 |
| 50-59            | 168                  | 88                   | 0.524                | 11.0                 |
| 60-69            | 80                   | 48                   | 0.600                | 9.5                  |
| 70-79            | 32                   | 28                   | 0.875                | 6.3                  |
| 80-89            | 4                    | 4                    | 1.000                | 5.0                  |

Life Table based on age structure of active hunters:

| <u>Age Class</u> | <u>l<sub>x</sub></u> | <u>d<sub>x</sub></u> | <u>q<sub>x</sub></u> | <u>e<sub>x</sub></u> |
|------------------|----------------------|----------------------|----------------------|----------------------|
| <10              | *                    | *                    | *                    | *                    |
| 10-19            | 1000                 | 314                  | 0.314                | 19.9                 |
| 20-29            | 686                  | 246                  | 0.359                | 16.8                 |
| 30-39            | 440                  | 247                  | 0.561                | 13.4                 |
| 40-49            | 193                  | 55                   | 0.285                | 14.0                 |
| 50-59            | 138                  | 110                  | 0.797                | 7.6                  |
| 60-69            | 28                   | 21                   | 0.750                | 7.9                  |
| 70-79            | 7                    |                      | 1.000                | 5.0                  |

NEW ENGLAND

| <u>Hunter's Age</u> | <u>No. Active Hunters</u> | <u>% of all Hunters</u> | <u>No. Dropouts</u> | <u>Average annual dropout rate</u> |
|---------------------|---------------------------|-------------------------|---------------------|------------------------------------|
| <5                  | 0                         | 0.0                     | 0                   | 0.000                              |
| 5-9                 | 25                        | 1.0                     | 17                  | 0.405                              |
| 10-14               | 149                       | 5.7                     | 27                  | 0.153                              |
| 15-19               | 342                       | 13.0                    | 57                  | 0.143                              |
| 20-24               | 298                       | 11.4                    | 49                  | 0.141                              |
| 25-29               | 296                       | 11.3                    | 78                  | 0.209                              |
| 30-34               | 307                       | 11.7                    | 54                  | 0.150                              |
| 35-39               | 255                       | 9.7                     | 45                  | 0.150                              |
| 40-44               | 192                       | 7.3                     | 45                  | 0.190                              |
| 45-49               | 154                       | 5.9                     | 33                  | 0.176                              |
| 50-54               | 137                       | 5.2                     | 44                  | 0.243                              |
| 55-59               | 111                       | 4.2                     | 32                  | 0.224                              |
| 60-64               | 101                       | 3.9                     | 25                  | 0.198                              |
| 65-69               | 126                       | 4.8                     | 19                  | 0.131                              |
| 70-74               | 103                       | 3.9                     | 16                  | 0.134                              |
| 75-79               | 19                        | 0.7                     | 5                   | 0.208                              |
| 80-84               | <u>7</u>                  | <u>0.3</u>              | <u>2</u>            | <u>0.222</u>                       |
|                     | 2622                      | 100                     | 548                 | 0.173                              |

Life Table based on age of dropouts:

| <u>Age Class</u> | <u><math>l_x</math></u> | <u><math>d_x</math></u> | <u><math>q_x</math></u> | <u><math>e_x</math></u> |
|------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| <5               | 1000                    | 0                       | 0.000                   | 37.2                    |
| 5-9              | 1000                    | 31                      | 0.031                   | 32.2                    |
| 10-14            | 969                     | 49                      | 0.051                   | 28.1                    |
| 15-19            | 920                     | 104                     | 0.113                   | 24.5                    |
| 20-24            | 816                     | 89                      | 0.109                   | 22.3                    |
| 25-29            | 727                     | 143                     | 0.197                   | 19.7                    |
| 30-34            | 584                     | 99                      | 0.170                   | 18.9                    |
| 35-39            | 485                     | 82                      | 0.169                   | 17.2                    |
| 40-44            | 403                     | 82                      | 0.203                   | 15.2                    |
| 45-49            | 321                     | 60                      | 0.187                   | 13.4                    |
| 50-54            | 261                     | 80                      | 0.307                   | 11.0                    |
| 55-59            | 181                     | 58                      | 0.320                   | 9.7                     |
| 60-64            | 123                     | 46                      | 0.374                   | 13.1                    |
| 65-69            | 77                      | 35                      | 0.455                   | 6.4                     |
| 70-74            | 42                      | 29                      | 0.690                   | 4.6                     |
| 75-79            | 13                      | 9                       | 0.692                   | 4.2                     |
| 80-84            | 4                       | 4                       | 1.000                   | 2.5                     |

Life Table based on age structure of active hunters:

| <u>Age Class</u> | <u><math>l_x</math></u> | <u><math>d_x</math></u> | <u><math>q_x</math></u> | <u><math>e_x</math></u> |
|------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| <5               | *                       | *                       | *                       | *                       |
| 5-9              | 1000                    | 126                     | 0.126                   | 23.9                    |
| 10-14            | 874                     | 34                      | 0.039                   | 21.9                    |
| 15-19            | *                       | *                       | *                       | *                       |
| 20-24            | 840                     | 196                     | 0.233                   | 17.7                    |
| 25-29            | 644                     | 121                     | 0.188                   | 17.4                    |
| 30-34            | 523                     | 162                     | 0.310                   | 15.8                    |
| 35-39            | 361                     | 40                      | 0.111                   | 16.7                    |
| 40-44            | 321                     | 92                      | 0.287                   | 13.5                    |
| 45-49            | 229                     | 34                      | 0.148                   | 12.9                    |
| 50-54            | 195                     | 23                      | 0.118                   | 9.8                     |
| 55-59            | 172                     | 103                     | 0.599                   | 5.7                     |
| 60-64            | 69                      | 34                      | 0.493                   | 5.5                     |
| 65-69            | 35                      | 29                      | 0.829                   | 3.4                     |
| 70-74            | 6                       | 6                       | 1.000                   | 2.5                     |

Appendix B - A summary of age-specific desertion statistics

MIDDLE ATLANTIC

| <u>Hunter's Age</u> | <u>No. Active<br/>Hunters</u> | <u>% of all<br/>Hunters</u> | <u>No.<br/>Dropouts</u> | <u>Average annual<br/>dropout rate</u> |
|---------------------|-------------------------------|-----------------------------|-------------------------|----------------------------------------|
| <5                  | 0                             | 0.0                         | 0                       | 0.000                                  |
| 5-9                 | 16                            | 0.8                         | 2                       | 0.111                                  |
| 10-14               | 118                           | 5.9                         | 4                       | 0.033                                  |
| 15-19               | 290                           | 14.4                        | 33                      | 0.102                                  |
| 20-24               | 239                           | 11.9                        | 40                      | 0.143                                  |
| 25-29               | 262                           | 13.0                        | 51                      | 0.163                                  |
| 30-34               | 246                           | 12.2                        | 44                      | 0.152                                  |
| 35-39               | 184                           | 9.1                         | 41                      | 0.182                                  |
| 40-44               | 154                           | 7.6                         | 34                      | 0.181                                  |
| 45-49               | 127                           | 6.3                         | 21                      | 0.142                                  |
| 50-54               | 121                           | 6.0                         | 19                      | 0.136                                  |
| 55-59               | 75                            | 3.7                         | 18                      | 0.194                                  |
| 60-64               | 85                            | 4.2                         | 8                       | 0.086                                  |
| 65-69               | 52                            | 2.6                         | 13                      | 0.200                                  |
| 70-74               | 36                            | 1.8                         | 11                      | 0.234                                  |
| 75-79               | 6                             | 0.3                         | 5                       | 0.455                                  |
| 80-84               | 3                             | 0.1                         | 2                       | 0.400                                  |
| 85-89               | <u>1</u>                      | <u>0.05</u>                 | <u>1</u>                | <u>0.500</u>                           |
|                     | 2015                          | 100                         | 347                     | 0.147                                  |

Life Table based on age of dropouts:

| <u>Age Class</u> | <u><math>l_x</math></u> | <u><math>d_x</math></u> | <u><math>q_x</math></u> | <u><math>e_x</math></u> |
|------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| <5               | 1000                    | 0                       | 0.000                   | 38.1                    |
| 5-9              | 1000                    | 6                       | 0.006                   | 33.1                    |
| 10-14            | 994                     | 12                      | 0.012                   | 28.2                    |
| 15-19            | 982                     | 95                      | 0.097                   | 23.6                    |
| 20-24            | 887                     | 115                     | 0.130                   | 20.8                    |
| 25-29            | 772                     | 146                     | 0.189                   | 18.5                    |
| 30-34            | 626                     | 127                     | 0.203                   | 17.3                    |
| 35-39            | 499                     | 118                     | 0.236                   | 16.0                    |
| 40-44            | 381                     | 98                      | 0.257                   | 15.2                    |
| 45-49            | 283                     | 61                      | 0.216                   | 14.6                    |
| 50-54            | 222                     | 55                      | 0.248                   | 13.0                    |
| 55-59            | 167                     | 52                      | 0.311                   | 11.4                    |
| 60-64            | 115                     | 23                      | 0.200                   | 10.4                    |
| 65-69            | 92                      | 37                      | 0.402                   | 7.4                     |
| 70-74            | 55                      | 32                      | 0.582                   | 5.6                     |
| 75-79            | 23                      | 14                      | 0.609                   | 5.0                     |
| 80-84            | 9                       | 6                       | 0.667                   | 3.9                     |
| 85-89            | 3                       | 3                       | 1.000                   | 2.5                     |

Life Table based on age structure of active hunters:

| <u>Age Class</u> | <u><math>l_x</math></u> | <u><math>d_x</math></u> | <u><math>q_x</math></u> | <u><math>e_x</math></u> |
|------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| <5               | *                       | *                       | *                       | *                       |
| 5-9              | 1000                    | 97                      | 0.097                   | 24.9                    |
| 10-14            | 903                     | 157                     | 0.174                   | 22.3                    |
| 15-19            | 746                     | 84                      | 0.113                   | 21.5                    |
| 20-24            | 662                     | 6                       | 0.009                   | 18.9                    |
| 25-29            | 656                     | 202                     | 0.308                   | 14.0                    |
| 30-34            | 454                     | 78                      | 0.172                   | 14.1                    |
| 35-39            | 376                     | 52                      | 0.138                   | 11.5                    |
| 40-44            | *                       | *                       | *                       | *                       |
| 45-49            | 324                     | 143                     | 0.441                   | 8.0                     |
| 50-54            | 181                     | 78                      | 0.431                   | 7.3                     |
| 55-59            | 103                     | 58                      | 0.563                   | 6.0                     |
| 60-64            | 45                      | 19                      | 0.422                   | 5.4                     |
| 65-69            | 26                      | 26                      | 1.000                   | 2.5                     |

Appendix B - A summary of age-specific desertion statistics

EAST NORTH CENTRAL

| <u>Hunter's Age</u> | <u>No. Active Hunters</u> | <u>% of all Hunters</u> | <u>No. Dropouts</u> | <u>Average annual dropout rate</u> |
|---------------------|---------------------------|-------------------------|---------------------|------------------------------------|
| <5                  | 0                         | 0.0                     | 0                   | 0.000                              |
| 5-9                 | 23                        | 0.7                     | 5                   | 0.179                              |
| 10-14               | 194                       | 5.7                     | 11                  | 0.054                              |
| 15-19               | 467                       | 13.7                    | 67                  | 0.125                              |
| 20-24               | 491                       | 14.4                    | 126                 | 0.204                              |
| 25-29               | 493                       | 14.5                    | 103                 | 0.173                              |
| 30-34               | 398                       | 11.7                    | 87                  | 0.179                              |
| 35-39               | 307                       | 9.0                     | 62                  | 0.168                              |
| 40-44               | 256                       | 7.5                     | 46                  | 0.152                              |
| 45-49               | 195                       | 5.7                     | 36                  | 0.156                              |
| 50-54               | 176                       | 5.2                     | 39                  | 0.181                              |
| 55-59               | 149                       | 4.4                     | 26                  | 0.149                              |
| 60-64               | 122                       | 3.6                     | 20                  | 0.141                              |
| 65-69               | 73                        | 2.1                     | 14                  | 0.161                              |
| 70-74               | 34                        | 1.0                     | 7                   | 0.171                              |
| 75-79               | 13                        | 0.4                     | 3                   | 0.188                              |
| 80-84               | 7                         | 0.2                     | 1                   | 0.125                              |
| 85-89               | <u>3</u>                  | <u>0.1</u>              | <u>1</u>            | <u>0.250</u>                       |
|                     | 3401                      | 100                     | 654                 | 0.161                              |

Life Table based on age of dropouts:

| <u>Age Class</u> | <u><math>l_x</math></u> | <u><math>d_x</math></u> | <u><math>q_x</math></u> | <u><math>e_x</math></u> |
|------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| <5               | 1000                    | 0                       | 0.000                   | 34.5                    |
| 5-9              | 1000                    | 8                       | 0.008                   | 29.5                    |
| 10-14            | 992                     | 17                      | 0.017                   | 24.7                    |
| 15-19            | 975                     | 102                     | 0.105                   | 20.1                    |
| 20-24            | 873                     | 192                     | 0.220                   | 17.1                    |
| 25-29            | 681                     | 156                     | 0.229                   | 16.3                    |
| 30-34            | 525                     | 133                     | 0.253                   | 15.4                    |
| 35-39            | 392                     | 95                      | 0.242                   | 14.7                    |
| 40-44            | 297                     | 70                      | 0.236                   | 13.6                    |
| 45-49            | 227                     | 55                      | 0.242                   | 12.1                    |
| 50-54            | 172                     | 60                      | 0.349                   | 10.1                    |
| 55-59            | 112                     | 40                      | 0.357                   | 9.2                     |
| 60-64            | 72                      | 31                      | 0.431                   | 7.9                     |
| 65-69            | 41                      | 21                      | 0.512                   | 7.0                     |
| 70-74            | 20                      | 11                      | 0.550                   | 6.5                     |
| 75-79            | 9                       | 5                       | 0.556                   | 7.5                     |
| 80-84            | 4                       | 2                       | 0.500                   | 5.0                     |
| 85-89            | 2                       | 2                       | 1.000                   | 2.5                     |

Life Table based on age structure of active hunters:

| <u>Age Class</u> | <u><math>l_x</math></u> | <u><math>d_x</math></u> | <u><math>q_x</math></u> | <u><math>e_x</math></u> |
|------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| <5               | *                       | *                       | *                       | *                       |
| 5-9              | 1000                    | 123                     | 0.123                   | 22.5                    |
| 10-14            | 877                     | 133                     | 0.152                   | 20.0                    |
| 15-19            | *                       | *                       | *                       | *                       |
| 20-24            | 744                     | 209                     | 0.281                   | 18.2                    |
| 25-29            | 535                     | 20                      | 0.037                   | 19.3                    |
| 30-34            | 515                     | 126                     | 0.245                   | 14.9                    |
| 35-39            | 389                     | 82                      | 0.211                   | 13.9                    |
| 40-44            | 307                     | 68                      | 0.221                   | 12.0                    |
| 45-49            | 239                     | 72                      | 0.301                   | 9.7                     |
| 50-54            | 167                     | 38                      | 0.228                   | 7.8                     |
| 55-59            | 129                     | 99                      | 0.767                   | 4.3                     |
| 60-64            | 30                      | 20                      | 0.667                   | 5.3                     |
| 65-69            | 10                      | 7                       | 0.700                   | 6.0                     |
| 70-74            | 3                       | 0                       | 0.000                   | 8.3                     |
| 75-79            | *                       | *                       | *                       | *                       |
| 80-84            | 3                       | 3                       | 1.000                   | 2.5                     |

Appendix B - A summary of age-specific desertion statistics

WEST NORTH CENTRAL

| <u>Hunter's Age</u> | <u>No. Active Hunters</u> | <u>% of all Hunters</u> | <u>No. Dropouts</u> | <u>Average annual dropout rate</u> |
|---------------------|---------------------------|-------------------------|---------------------|------------------------------------|
| <5                  | 0                         | 0.0                     | 0                   | 0.000                              |
| 5-9                 | 82                        | 1.6                     | 6                   | 0.068                              |
| 10-14               | 377                       | 7.4                     | 27                  | 0.067                              |
| 15-19               | 786                       | 15.4                    | 84                  | 0.097                              |
| 20-24               | 752                       | 14.7                    | 111                 | 0.129                              |
| 25-29               | 679                       | 13.3                    | 123                 | 0.153                              |
| 30-34               | 592                       | 11.6                    | 110                 | 0.157                              |
| 35-39               | 446                       | 8.7                     | 67                  | 0.131                              |
| 40-44               | 332                       | 6.5                     | 67                  | 0.168                              |
| 45-49               | 277                       | 5.4                     | 52                  | 0.158                              |
| 50-54               | 237                       | 4.6                     | 43                  | 0.154                              |
| 55-59               | 190                       | 3.7                     | 35                  | 0.156                              |
| 60-64               | 147                       | 2.9                     | 31                  | 0.174                              |
| 65-69               | 119                       | 2.3                     | 28                  | 0.190                              |
| 70-74               | 57                        | 1.1                     | 17                  | 0.230                              |
| 75-79               | 34                        | 0.7                     | 7                   | 0.171                              |
| 80-84               | 9                         | 0.2                     | 1                   | 0.100                              |
| 85-89               | 1                         | 0.02                    | 1                   | 0.500                              |
| 90-94               | 0                         | 0.0                     | 0                   | 0.000                              |
| 95-99               | <u>1</u>                  | <u>0.02</u>             | <u>0</u>            | <u>0.000</u>                       |
|                     | 5118                      | 100                     | 610                 | 0.137                              |

Life Table based on age of dropouts:

| <u>Age Class</u> | <u><math>l_x</math></u> | <u><math>d_x</math></u> | <u><math>q_x</math></u> | <u><math>e_x</math></u> |
|------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| <5               | 1000                    | 0                       | 0.000                   | 36.1                    |
| 5-9              | 1000                    | 7                       | 0.007                   | 31.1                    |
| 10-14            | 993                     | 33                      | 0.033                   | 26.3                    |
| 15-19            | 960                     | 104                     | 0.108                   | 22.1                    |
| 20-24            | 856                     | 137                     | 0.160                   | 19.5                    |
| 25-29            | 719                     | 152                     | 0.211                   | 17.7                    |
| 30-34            | 567                     | 136                     | 0.240                   | 16.7                    |
| 35-39            | 431                     | 83                      | 0.193                   | 16.2                    |
| 40-44            | 348                     | 83                      | 0.239                   | 14.5                    |
| 45-49            | 265                     | 64                      | 0.242                   | 13.3                    |
| 50-54            | 201                     | 53                      | 0.264                   | 11.7                    |
| 55-59            | 148                     | 43                      | 0.291                   | 10.0                    |
| 60-64            | 105                     | 38                      | 0.362                   | 8.0                     |
| 65-69            | 67                      | 35                      | 0.522                   | 6.1                     |
| 70-74            | 32                      | 21                      | 0.656                   | 5.0                     |
| 75-79            | 11                      | 9                       | 0.818                   | 4.5                     |
| 80-84            | 2                       | 1                       | 0.500                   | 7.5                     |
| 85-89            | 1                       | 1                       | 1.000                   | 2.5                     |

Life Table based on age structure of active hunters:

| <u>Age Class</u> | <u><math>l_x</math></u> | <u><math>d_x</math></u> | <u><math>q_x</math></u> | <u><math>e_x</math></u> |
|------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| <5               | *                       | *                       | *                       | *                       |
| 5-9              | 1000                    | 31                      | 0.031                   | 26.6                    |
| 10-14            | 969                     | 118                     | 0.122                   | 22.3                    |
| 15-19            | 851                     | 192                     | 0.226                   | 20.1                    |
| 20-24            | 659                     | 46                      | 0.070                   | 20.2                    |
| 25-29            | 613                     | 187                     | 0.305                   | 16.5                    |
| 30-34            | 426                     | 90                      | 0.211                   | 17.7                    |
| 35-39            | 336                     | 36                      | 0.113                   | 16.8                    |
| 40-44            | 298                     | 82                      | 0.275                   | 13.6                    |
| 45-49            | 216                     | 23                      | 0.106                   | 12.8                    |
| 50-54            | 193                     | 33                      | 0.171                   | 9.0                     |
| 55-59            | 160                     | 95                      | 0.594                   | 5.3                     |
| 60-64            | 65                      | 51                      | 0.785                   | 4.4                     |
| 65-69            | 14                      | 8                       | 0.571                   | 6.1                     |
| 70-74            | 6                       | 3                       | 0.500                   | 5.8                     |
| 75-79            | 3                       | 3                       | 1.000                   | 2.5                     |

Appendix B - A summary of age-specific desertion statistics

SOUTH ATLANTIC

| <u>Hunter's Age</u> | <u>No. Active<br/>Hunters</u> | <u>% of all<br/>Hunters</u> | <u>No.<br/>Dropouts</u> | <u>Average annual<br/>dropout rate</u> |
|---------------------|-------------------------------|-----------------------------|-------------------------|----------------------------------------|
| <5                  | 0                             | 0.0                         | 0                       | 0.000                                  |
| 5-9                 | 46                            | 1.2                         | 8                       | 0.148                                  |
| 10-14               | 276                           | 7.4                         | 16                      | 0.055                                  |
| 15-19               | 500                           | 13.3                        | 72                      | 0.126                                  |
| 20-24               | 521                           | 13.9                        | 89                      | 0.146                                  |
| 25-29               | 502                           | 13.4                        | 87                      | 0.148                                  |
| 30-34               | 436                           | 11.6                        | 85                      | 0.163                                  |
| 35-39               | 351                           | 9.4                         | 61                      | 0.148                                  |
| 40-44               | 265                           | 7.1                         | 53                      | 0.167                                  |
| 45-49               | 188                           | 5.0                         | 36                      | 0.161                                  |
| 50-54               | 196                           | 5.2                         | 42                      | 0.176                                  |
| 55-59               | 175                           | 4.7                         | 20                      | 0.103                                  |
| 60-64               | 130                           | 3.5                         | 11                      | 0.078                                  |
| 65-69               | 101                           | 2.7                         | 15                      | 0.129                                  |
| 70-74               | 46                            | 1.2                         | 13                      | 0.220                                  |
| 75-79               | 8                             | 0.2                         | 3                       | 0.273                                  |
| 80-84               | 8                             | 0.2                         | 1                       | 0.111                                  |
| 85-89               | 1                             | 0.03                        | 1                       | 0.500                                  |
| 90-94               | <u>2</u>                      | <u>0.05</u>                 | <u>0</u>                | <u>0.000</u>                           |
|                     | 3752                          | 100                         | 613                     | 0.134                                  |

Life Table based on age of dropouts:

| <u>Age Class</u> | <u><math>l_x</math></u> | <u><math>d_x</math></u> | <u><math>q_x</math></u> | <u><math>e_x</math></u> |
|------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| <5               | 1000                    | 0                       | 0.000                   | 34.9                    |
| 5-9              | 1000                    | 13                      | 0.013                   | 29.9                    |
| 10-14            | 987                     | 26                      | 0.026                   | 25.2                    |
| 15-19            | 961                     | 117                     | 0.122                   | 20.8                    |
| 20-24            | 844                     | 144                     | 0.171                   | 18.4                    |
| 25-29            | 700                     | 142                     | 0.203                   | 16.7                    |
| 30-34            | 558                     | 139                     | 0.249                   | 15.3                    |
| 35-39            | 419                     | 100                     | 0.239                   | 14.5                    |
| 40-44            | 319                     | 86                      | 0.270                   | 13.2                    |
| 45-49            | 233                     | 59                      | 0.253                   | 12.2                    |
| 50-54            | 174                     | 69                      | 0.397                   | 10.5                    |
| 55-59            | 105                     | 33                      | 0.314                   | 10.7                    |
| 60-64            | 72                      | 18                      | 0.250                   | 9.4                     |
| 65-69            | 54                      | 24                      | 0.444                   | 9.1                     |
| 70-74            | 30                      | 21                      | 0.700                   | 5.2                     |
| 75-79            | 9                       | 5                       | 0.556                   | 6.1                     |
| 80-84            | 4                       | 2                       | 0.500                   | 5.0                     |
| 85-89            | 2                       | 2                       | 1.000                   | 2.5                     |

Life Table based on age structure of active hunters:

| <u>Age Class</u> | <u><math>l_x</math></u> | <u><math>d_x</math></u> | <u><math>q_x</math></u> | <u><math>e_x</math></u> |
|------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| <5               | *                       | *                       | *                       | *                       |
| 5-9              | *                       | *                       | *                       | *                       |
| 10-14            | 1000                    | 75                      | 0.075                   | 25.1                    |
| 15-19            | 925                     | 55                      | 0.059                   | 21.9                    |
| 20-24            | 870                     | 234                     | 0.269                   | 18.1                    |
| 25-29            | 636                     | 150                     | 0.236                   | 18.8                    |
| 30-34            | 486                     | 79                      | 0.163                   | 18.8                    |
| 35-39            | 407                     | 63                      | 0.155                   | 17.0                    |
| 40-44            | 344                     | 24                      | 0.070                   | 14.7                    |
| 45-49            | 320                     | 55                      | 0.172                   | 10.6                    |
| 50-54            | 265                     | 87                      | 0.328                   | 7.2                     |
| 55-59            | 178                     | 130                     | 0.730                   | 4.5                     |
| 60-64            | 48                      | 32                      | 0.667                   | 5.0                     |
| 65-69            | 16                      | 12                      | 0.750                   | 5.0                     |
| 70-74            | 4                       | 0                       | 0.000                   | 7.5                     |
| 75-79            | 4                       | 4                       | 1.000                   | 2.5                     |

Appendix B - A summary of age-specific desertion statistics

EAST SOUTH CENTRAL

| <u>Hunter's Age</u> | <u>No. Active Hunters</u> | <u>% of all Hunters</u> | <u>No. Dropouts</u> | <u>Average annual dropout rate</u> |
|---------------------|---------------------------|-------------------------|---------------------|------------------------------------|
| <5                  | 0                         | 0.0                     | 0                   | 0.000                              |
| 5-9                 | 56                        | 2.0                     | 12                  | 0.176                              |
| 10-14               | 220                       | 7.7                     | 23                  | 0.095                              |
| 15-19               | 423                       | 14.8                    | 41                  | 0.088                              |
| 20-24               | 349                       | 12.2                    | 64                  | 0.155                              |
| 25-29               | 348                       | 12.2                    | 62                  | 0.151                              |
| 30-34               | 288                       | 10.1                    | 56                  | 0.163                              |
| 35-39               | 270                       | 9.5                     | 45                  | 0.143                              |
| 40-44               | 188                       | 6.6                     | 35                  | 0.157                              |
| 45-49               | 189                       | 6.6                     | 25                  | 0.117                              |
| 50-54               | 145                       | 5.1                     | 19                  | 0.116                              |
| 55-59               | 138                       | 4.8                     | 21                  | 0.132                              |
| 60-64               | 95                        | 3.3                     | 14                  | 0.128                              |
| 65-69               | 82                        | 2.9                     | 16                  | 0.163                              |
| 70-74               | 35                        | 1.2                     | 11                  | 0.239                              |
| 75-79               | 21                        | 0.7                     | 2                   | 0.087                              |
| 80-84               | 2                         | 0.07                    | 1                   | 0.333                              |
| 85-89               | 1                         | 0.04                    | 0                   | 0.000                              |
| 90-94               | 0                         | 0.0                     | 0                   | 0.000                              |
| 95-99               | <u>1</u>                  | <u>0.04</u>             | <u>0</u>            | <u>0.000</u>                       |
|                     | 2851                      | 100                     | 447                 | 0.136                              |

Life Table based on age of dropouts:

| <u>Age Class</u> | <u><math>l_x</math></u> | <u><math>d_x</math></u> | <u><math>q_x</math></u> | <u><math>e_x</math></u> |
|------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| <5               | 1000                    | 0                       | 0.000                   | 35.0                    |
| 5-9              | 1000                    | 27                      | 0.027                   | 30.0                    |
| 10-14            | 973                     | 51                      | 0.052                   | 25.7                    |
| 15-19            | 922                     | 92                      | 0.100                   | 22.0                    |
| 20-24            | 830                     | 143                     | 0.172                   | 19.2                    |
| 25-29            | 687                     | 139                     | 0.202                   | 17.6                    |
| 30-34            | 548                     | 125                     | 0.228                   | 16.5                    |
| 35-39            | 423                     | 101                     | 0.239                   | 15.6                    |
| 40-44            | 322                     | 78                      | 0.242                   | 14.7                    |
| 45-49            | 244                     | 56                      | 0.230                   | 13.5                    |
| 50-54            | 188                     | 43                      | 0.229                   | 11.8                    |
| 55-59            | 145                     | 47                      | 0.324                   | 9.6                     |
| 60-64            | 98                      | 31                      | 0.316                   | 8.0                     |
| 65-69            | 67                      | 36                      | 0.537                   | 5.4                     |
| 70-74            | 31                      | 25                      | 0.806                   | 3.9                     |
| 75-79            | 6                       | 4                       | 0.667                   | 4.2                     |
| 80-84            | 2                       | 2                       | 1.000                   | 2.5                     |

Life Table based on age structure of active hunters:

| <u>Age Class</u> | <u><math>l_x</math></u> | <u><math>d_x</math></u> | <u><math>q_x</math></u> | <u><math>e_x</math></u> |
|------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| <5               | *                       | *                       | *                       | *                       |
| 5-9              | *                       | *                       | *                       | *                       |
| 10-14            | 1000                    | 67                      | 0.067                   | 24.8                    |
| 15-19            | 933                     | 217                     | 0.233                   | 21.4                    |
| 20-24            | 716                     | 72                      | 0.101                   | 22.1                    |
| 25-29            | 644                     | 144                     | 0.224                   | 19.3                    |
| 30-34            | 500                     | 57                      | 0.114                   | 19.1                    |
| 35-39            | 443                     | 21                      | 0.047                   | 16.2                    |
| 40-44            | 422                     | 155                     | 0.367                   | 11.9                    |
| 45-49            | 267                     | 31                      | 0.116                   | 4.9                     |
| 50-54            | 236                     | 36                      | 0.153                   | 8.6                     |
| 55-59            | 200                     | 139                     | 0.695                   | 4.7                     |
| 60-64            | 61                      | 41                      | 0.672                   | 4.7                     |
| 65-69            | 20                      | 15                      | 0.750                   | 4.0                     |
| 70-74            | *                       | *                       | *                       | *                       |
| 75-79            | 5                       | 5                       | 1.000                   | 2.5                     |

Appendix B - A summary of age-specific desertion statistics

WEST SOUTH CENTRAL

| <u>Hunter's Age</u> | <u>No. Active Hunters</u> | <u>% of all Hunters</u> | <u>No. Dropouts</u> | <u>Average annual dropout rate</u> |
|---------------------|---------------------------|-------------------------|---------------------|------------------------------------|
| <5                  | 0                         | 0.0                     | 0                   | 0.000                              |
| 5-9                 | 67                        | 2.0                     | 14                  | 0.173                              |
| 10-14               | 301                       | 8.9                     | 40                  | 0.117                              |
| 15-19               | 436                       | 12.8                    | 60                  | 0.121                              |
| 20-24               | 432                       | 12.7                    | 71                  | 0.141                              |
| 25-29               | 436                       | 12.8                    | 89                  | 0.170                              |
| 30-34               | 375                       | 11.0                    | 79                  | 0.174                              |
| 35-39               | 305                       | 9.0                     | 54                  | 0.150                              |
| 40-44               | 235                       | 6.9                     | 50                  | 0.175                              |
| 45-49               | 178                       | 5.2                     | 37                  | 0.172                              |
| 50-54               | 176                       | 5.2                     | 28                  | 0.137                              |
| 55-59               | 154                       | 4.5                     | 22                  | 0.125                              |
| 60-64               | 119                       | 3.5                     | 22                  | 0.156                              |
| 65-69               | 107                       | 3.2                     | 17                  | 0.137                              |
| 70-74               | 48                        | 1.4                     | 3                   | 0.059                              |
| 75-79               | 22                        | 0.6                     | 10                  | 0.313                              |
| 80-84               | 4                         | 0.1                     | 2                   | 0.333                              |
| 85-89               | 1                         | 0.03                    | 3                   | 0.750                              |
| 90-94               | <u>0</u>                  | <u>0.0</u>              | <u>1</u>            | <u>1.000</u>                       |
|                     | 3396                      | 100                     | 602                 | 0.151                              |

Life Table based on age of dropouts:

| <u>Age Class</u> | <u>l<sub>x</sub></u> | <u>d<sub>x</sub></u> | <u>G<sub>x</sub></u> | <u>e<sub>x</sub></u> |
|------------------|----------------------|----------------------|----------------------|----------------------|
| <5               | 1000                 | 0                    | 0.000                | 34.9                 |
| 5-9              | 1000                 | 23                   | 0.023                | 29.9                 |
| 10-14            | 977                  | 66                   | 0.068                | 25.5                 |
| 15-19            | 911                  | 100                  | 0.110                | 22.2                 |
| 20-24            | 811                  | 118                  | 0.145                | 19.6                 |
| 25-29            | 693                  | 147                  | 0.212                | 17.5                 |
| 30-34            | 546                  | 131                  | 0.240                | 16.6                 |
| 35-39            | 415                  | 90                   | 0.217                | 16.0                 |
| 40-44            | 325                  | 83                   | 0.255                | 14.8                 |
| 45-49            | 242                  | 61                   | 0.252                | 13.9                 |
| 50-54            | 181                  | 47                   | 0.260                | 12.8                 |
| 55-59            | 134                  | 37                   | 0.276                | 11.4                 |
| 60-64            | 97                   | 37                   | 0.381                | 9.7                  |
| 65-69            | 60                   | 28                   | 0.467                | 9.2                  |
| 70-74            | 32                   | 5                    | 0.156                | 10.0                 |
| 75-79            | 27                   | 17                   | 0.630                | 6.3                  |
| 80-84            | 10                   | 3                    | 0.300                | 7.5                  |
| 85-89            | 7                    | 5                    | 0.714                | 4.3                  |
| 90-94            | 2                    | 2                    | 1.000                | 2.5                  |

Life Table based on age structure of active hunters:

| <u>Age Class</u> | <u><math>l_x</math></u> | <u><math>d_x</math></u> | <u><math>q_x</math></u> | <u><math>e_x</math></u> |
|------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| <5               | *                       | *                       | *                       | *                       |
| 5-9              | *                       | *                       | *                       | *                       |
| 10-14            | 1000                    | 57                      | 0.057                   | 23.2                    |
| 15-19            | 943                     | 93                      | 0.099                   | 19.4                    |
| 20-24            | 850                     | 237                     | 0.279                   | 16.3                    |
| 25-29            | *                       | *                       | *                       | *                       |
| 30-34            | 613                     | 127                     | 0.207                   | 16.6                    |
| 35-39            | 486                     | 97                      | 0.200                   | 15.3                    |
| 40-44            | 389                     | 88                      | 0.226                   | 13.5                    |
| 45-49            | 301                     | 40                      | 0.133                   | 11.7                    |
| 50-54            | 261                     | 97                      | 0.372                   | 8.1                     |
| 55-59            | 164                     | 93                      | 0.567                   | 6.4                     |
| 60-64            | 71                      | 40                      | 0.563                   | 6.5                     |
| 65-69            | 31                      | 9                       | 0.290                   | 6.8                     |
| 70-74            | 22                      | 18                      | 0.818                   | 3.4                     |
| 75-79            | 4                       | 4                       | 1.000                   | 2.5                     |

Appendix B - A summary of age-specific desertion statistics

MOUNTAIN

| <u>Hunter's Age</u> | <u>No. Active Hunters</u> | <u>% of all Hunters</u> | <u>No. Dropouts</u> | <u>Average annual dropout rate</u> |
|---------------------|---------------------------|-------------------------|---------------------|------------------------------------|
| <5                  | 0                         | 0.0                     | 0                   | 0.000                              |
| 5-9                 | 74                        | 1.4                     | 9                   | 0.108                              |
| 10-14               | 335                       | 6.2                     | 49                  | 0.128                              |
| 15-19               | 710                       | 13.2                    | 117                 | 0.141                              |
| 20-24               | 742                       | 13.8                    | 195                 | 0.208                              |
| 25-29               | 763                       | 14.2                    | 169                 | 0.181                              |
| 30-34               | 683                       | 12.7                    | 32                  | 0.162                              |
| 35-39               | 509                       | 9.5                     | 109                 | 0.176                              |
| 40-44               | 403                       | 7.5                     | 93                  | 0.188                              |
| 45-49               | 329                       | 6.0                     | 58                  | 0.152                              |
| 50-54               | 255                       | 4.7                     | 53                  | 0.172                              |
| 55-59               | 218                       | 4.1                     | 63                  | 0.224                              |
| 60-64               | 156                       | 2.9                     | 42                  | 0.212                              |
| 65-69               | 115                       | 2.1                     | 34                  | 0.228                              |
| 70-74               | 49                        | 0.9                     | 12                  | 0.197                              |
| 75-79               | 28                        | 0.5                     | 10                  | 0.263                              |
| 80-84               | 5                         | 0.1                     | 5                   | 0.500                              |
| 85-89               | 2                         | 0.03                    | 1                   | 0.333                              |
| 90-94               | <u>1</u>                  | <u>0.02</u>             | <u>0</u>            | <u>0.000</u>                       |
|                     | 5372                      | 100                     | 1151                | 0.176                              |

Life Table based on age of dropouts:

| <u>Age Class</u> | <u><math>l_x</math></u> | <u><math>d_x</math></u> | <u><math>q_x</math></u> | <u><math>e_x</math></u> |
|------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| <5               | 1000                    | 0                       | 0.000                   | 35.0                    |
| 5-9              | 1000                    | 8                       | 0.008                   | 30.0                    |
| 10-14            | 992                     | 43                      | 0.043                   | 25.3                    |
| 15-19            | 949                     | 102                     | 0.107                   | 21.3                    |
| 20-24            | 847                     | 168                     | 0.198                   | 18.5                    |
| 25-29            | 679                     | 147                     | 0.216                   | 17.5                    |
| 30-34            | 532                     | 115                     | 0.216                   | 16.7                    |
| 35-39            | 417                     | 95                      | 0.228                   | 15.6                    |
| 40-44            | 322                     | 81                      | 0.252                   | 14.4                    |
| 45-49            | 241                     | 50                      | 0.207                   | 13.4                    |
| 50-54            | 191                     | 46                      | 0.241                   | 11.3                    |
| 55-59            | 145                     | 55                      | 0.379                   | 9.0                     |
| 60-64            | 90                      | 36                      | 0.400                   | 8.0                     |
| 65-69            | 54                      | 30                      | 0.556                   | 6.7                     |
| 70-74            | 24                      | 10                      | 0.417                   | 6.9                     |
| 75-79            | 14                      | 9                       | 0.643                   | 5.0                     |
| 80-84            | 5                       | 4                       | 0.800                   | 4.0                     |
| 85-89            | 1                       | 1                       | 1.000                   | 2.5                     |

Life Table based on age structure of active hunters:

| <u>Age Class</u> | <u><math>l_x</math></u> | <u><math>d_x</math></u> | <u><math>q_x</math></u> | <u><math>e_x</math></u> |
|------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| <5               | *                       | *                       | *                       | *                       |
| 5-9              | *                       | *                       | *                       | *                       |
| 10-14            | 1000                    | 94                      | 0.094                   | 22.7                    |
| 15-19            | 906                     | 156                     | 0.172                   | 19.8                    |
| 20-24            | 750                     | 155                     | 0.207                   | 18.4                    |
| 25-29            | 595                     | 68                      | 0.114                   | 17.5                    |
| 30-34            | 527                     | 152                     | 0.288                   | 14.4                    |
| 35-39            | 375                     | 100                     | 0.267                   | 14.2                    |
| 40-44            | 275                     | 42                      | 0.153                   | 13.5                    |
| 45-49            | 233                     | 63                      | 0.271                   | 10.5                    |
| 50-54            | 170                     | 63                      | 0.371                   | 8.4                     |
| 55-59            | 107                     | 47                      | 0.439                   | 6.9                     |
| 60-64            | 60                      | 39                      | 0.650                   | 5.3                     |
| 65-69            | 21                      | 13                      | 0.619                   | 5.5                     |
| 70-74            | 8                       | 5                       | 0.625                   | 5.0                     |
| 75-79            | 3                       | 3                       | 1.000                   | 2.5                     |

Appendix B - A summary of age-specific desertion statistics

PACIFIC

| <u>Hunter's Age</u> | <u>No. Active Hunters</u> | <u>% of all Hunters</u> | <u>No. Dropouts</u> | <u>Average annual dropout rate</u> |
|---------------------|---------------------------|-------------------------|---------------------|------------------------------------|
| <5                  | 0                         | 0.0                     | 0                   | 0.000                              |
| 5-9                 | 34                        | 1.4                     | 11                  | 0.244                              |
| 10-14               | 149                       | 6.0                     | 20                  | 0.118                              |
| 15-19               | 264                       | 10.6                    | 49                  | 0.157                              |
| 20-24               | 327                       | 13.1                    | 81                  | 0.199                              |
| 25-29               | 376                       | 15.1                    | 94                  | 0.200                              |
| 30-34               | 360                       | 14.5                    | 85                  | 0.191                              |
| 35-39               | 264                       | 10.6                    | 85                  | 0.244                              |
| 40-44               | 185                       | 7.4                     | 53                  | 0.223                              |
| 45-49               | 134                       | 5.4                     | 32                  | 0.193                              |
| 50-54               | 119                       | 4.8                     | 30                  | 0.201                              |
| 55-59               | 85                        | 3.4                     | 28                  | 0.248                              |
| 60-64               | 83                        | 3.3                     | 15                  | 0.153                              |
| 65-69               | 56                        | 2.3                     | 11                  | 0.164                              |
| 70-74               | 28                        | 1.1                     | 7                   | 0.200                              |
| 75-79               | 17                        | 0.7                     | 8                   | 0.320                              |
| 80-84               | 4                         | 0.2                     | 2                   | 0.333                              |
| 85-89               | <u>2</u>                  | <u>0.1</u>              | <u>0</u>            | <u>0.000</u>                       |
|                     | 2487                      | 100                     | 611                 | 0.197                              |

Life Table based on age of dropouts:

| <u>Age Class</u> | <u><math>l_x</math></u> | <u><math>d_x</math></u> | <u><math>q_x</math></u> | <u><math>e_x</math></u> |
|------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| <5               | 1000                    | 0                       | 0.000                   | 35.1                    |
| 5-9              | 1000                    | 18                      | 0.018                   | 30.1                    |
| 10-14            | 982                     | 33                      | 0.034                   | 25.7                    |
| 15-19            | 949                     | 80                      | 0.084                   | 21.5                    |
| 20-24            | 869                     | 133                     | 0.153                   | 18.2                    |
| 25-29            | 736                     | 154                     | 0.209                   | 16.0                    |
| 30-34            | 582                     | 139                     | 0.239                   | 14.6                    |
| 35-39            | 443                     | 139                     | 0.314                   | 13.4                    |
| 40-44            | 304                     | 87                      | 0.286                   | 13.4                    |
| 45-49            | 217                     | 52                      | 0.240                   | 12.7                    |
| 50-54            | 165                     | 49                      | 0.297                   | 11.0                    |
| 55-59            | 116                     | 46                      | 0.397                   | 9.5                     |
| 60-64            | 70                      | 25                      | 0.357                   | 9.1                     |
| 65-69            | 45                      | 18                      | 0.400                   | 7.8                     |
| 70-74            | 27                      | 11                      | 0.407                   | 6.3                     |
| 75-79            | 16                      | 13                      | 0.813                   | 3.8                     |
| 80-84            | 3                       | 3                       | 1.000                   | 2.5                     |

Life Table based on age structure of active hunters:

| <u>Age Class</u> | <u><math>l_x</math></u> | <u><math>d_x</math></u> | <u><math>q_x</math></u> | <u><math>e_x</math></u> |
|------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| <5               | *                       | *                       | *                       | *                       |
| 5-9              | *                       | *                       | *                       | *                       |
| 10-14            | 1000                    | 36                      | 0.036                   | 19.9                    |
| 15-19            | *                       | *                       | *                       | *                       |
| 20-24            | 964                     | 322                     | 0.334                   | 15.6                    |
| 25-29            | 642                     | 117                     | 0.182                   | 17.1                    |
| 30-34            | 525                     | 117                     | 0.223                   | 15.4                    |
| 35-39            | 408                     | 131                     | 0.321                   | 14.1                    |
| 40-44            | 277                     | 22                      | 0.079                   | 14.5                    |
| 45-49            | 255                     | 58                      | 0.227                   | 10.6                    |
| 50-54            | 197                     | 102                     | 0.518                   | 7.9                     |
| 55-59            | 95                      | 29                      | 0.305                   | 8.8                     |
| 60-64            | 66                      | 29                      | 0.439                   | 6.5                     |
| 65-69            | 37                      | 22                      | 0.595                   | 4.6                     |
| 70-74            | 15                      | 15                      | 1.000                   | 2.5                     |

Appendix C - A summary of age-specific desertion statistics

HIGH PARTICIPATION

| <u>Hunter's Age</u> | <u>No. Active Hunters</u> | <u>% of all Hunters</u> | <u>No. Dropouts</u> | <u>Average annual dropout rate</u> |
|---------------------|---------------------------|-------------------------|---------------------|------------------------------------|
| <5                  | 0                         | 0.0                     | 0                   | 0.000                              |
| 5-9                 | 165                       | 1.4                     | 16                  | 0.088                              |
| 10-14               | 784                       | 6.6                     | 60                  | 0.071                              |
| 15-19               | 1613                      | 13.6                    | 188                 | 0.104                              |
| 20-24               | 1566                      | 13.2                    | 261                 | 0.143                              |
| 25-29               | 1633                      | 13.7                    | 304                 | 0.157                              |
| 30-34               | 1463                      | 12.3                    | 197                 | 0.119                              |
| 35-39               | 1129                      | 9.5                     | 192                 | 0.145                              |
| 40-44               | 777                       | 6.5                     | 138                 | 0.151                              |
| 45-49               | 707                       | 5.9                     | 100                 | 0.124                              |
| 50-54               | 594                       | 5.0                     | 91                  | 0.133                              |
| 55-59               | 521                       | 4.4                     | 79                  | 0.132                              |
| 60-64               | 371                       | 3.1                     | 54                  | 0.127                              |
| 65-69               | 334                       | 2.8                     | 54                  | 0.139                              |
| 70-74               | 146                       | 1.2                     | 33                  | 0.184                              |
| 75-79               | 70                        | 0.6                     | 18                  | 0.205                              |
| 80-84               | 19                        | 0.2                     | 8                   | 0.296                              |
| 85-89               | 2                         | 0.02                    | 3                   | 0.600                              |
| 90-94               | <u>1</u>                  | <u>0.008</u>            | <u>0</u>            | <u>0.000</u>                       |
|                     | 11895                     | 100                     | 1796                | 0.131                              |

Life Table based on age of dropouts:

| <u>Age Class</u> | <u><math>l_x</math></u> | <u><math>d_x</math></u> | <u><math>q_x</math></u> | <u><math>e_x</math></u> |
|------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| <5               | 1000                    | 0                       | 0.000                   | 35.5                    |
| 5-9              | 1000                    | 9                       | 0.009                   | 30.5                    |
| 10-14            | 991                     | 33                      | 0.033                   | 25.7                    |
| 15-19            | 958                     | 105                     | 0.110                   | 21.5                    |
| 20-24            | 853                     | 145                     | 0.170                   | 18.8                    |
| 25-29            | 708                     | 169                     | 0.239                   | 17.2                    |
| 30-34            | 539                     | 110                     | 0.204                   | 16.8                    |
| 35-39            | 429                     | 107                     | 0.249                   | 15.5                    |
| 40-44            | 322                     | 77                      | 0.239                   | 14.8                    |
| 45-49            | 245                     | 56                      | 0.229                   | 13.6                    |
| 50-54            | 189                     | 51                      | 0.270                   | 11.9                    |
| 55-59            | 138                     | 44                      | 0.319                   | 10.3                    |
| 60-64            | 94                      | 30                      | 0.319                   | 9.0                     |
| 65-69            | 64                      | 30                      | 0.469                   | 7.0                     |
| 70-74            | 34                      | 18                      | 0.529                   | 6.0                     |
| 75-79            | 16                      | 10                      | 0.625                   | 5.0                     |
| 80-84            | 6                       | 4                       | 0.667                   | 4.2                     |
| 85-89            | 2                       | 2                       | 1.000                   | 2.5                     |

Life Table based on age structure of active hunters:

| <u>Age Class</u> | <u><math>l_x</math></u> | <u><math>d_x</math></u> | <u><math>q_x</math></u> | <u><math>e_x</math></u> |
|------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| <5               | *                       | *                       | *                       | *                       |
| 5-9              | *                       | *                       | *                       | *                       |
| 10-14            | 1000                    | 102                     | 0.102                   | 23.7                    |
| 15-19            | 898                     | 90                      | 0.100                   | 21.1                    |
| 20-24            | 808                     | 215                     | 0.266                   | 18.2                    |
| 25-29            | 593                     | 85                      | 0.143                   | 18.9                    |
| 30-34            | 508                     | 116                     | 0.228                   | 16.7                    |
| 35-39            | 392                     | 76                      | 0.194                   | 15.8                    |
| 40-44            | 316                     | 49                      | 0.155                   | 14.1                    |
| 45-49            | 267                     | 40                      | 0.150                   | 11.2                    |
| 50-54            | 227                     | 76                      | 0.335                   | 7.7                     |
| 55-59            | 151                     | 95                      | 0.629                   | 5.3                     |
| 60-64            | 56                      | 39                      | 0.696                   | 5.0                     |
| 65-69            | 17                      | 9                       | 0.529                   | 5.6                     |
| 70-74            | 8                       | 7                       | 0.875                   | 3.8                     |
| 75-79            | *                       | *                       | *                       | *                       |
| 80-84            | 1                       | 1                       | 1.000                   | 5.0                     |

Appendix C - A summary of age-specific desertion statistics

MEDIUM PARTICIPATION

| <u>Hunter's Age</u> | <u>No. Active Hunters</u> | <u>% of all Hunters</u> | <u>No. Dropouts</u> | <u>Average annual dropout rate</u> |
|---------------------|---------------------------|-------------------------|---------------------|------------------------------------|
| <5                  | 0                         | 0.0                     | 0                   | 0.000                              |
| 5-9                 | 214                       | 1.4                     | 42                  | 0.164                              |
| 10-14               | 1160                      | 7.3                     | 123                 | 0.096                              |
| 15-19               | 2160                      | 13.7                    | 304                 | 0.123                              |
| 20-24               | 2111                      | 13.4                    | 437                 | 0.172                              |
| 25-29               | 2070                      | 13.1                    | 421                 | 0.169                              |
| 30-34               | 1825                      | 11.5                    | 395                 | 0.178                              |
| 35-39               | 1444                      | 9.1                     | 279                 | 0.162                              |
| 40-44               | 1185                      | 7.5                     | 254                 | 0.177                              |
| 45-49               | 880                       | 5.6                     | 170                 | 0.162                              |
| 50-54               | 809                       | 5.1                     | 172                 | 0.175                              |
| 55-59               | 649                       | 4.1                     | 135                 | 0.172                              |
| 60-64               | 530                       | 3.4                     | 101                 | 0.160                              |
| 65-69               | 384                       | 2.4                     | 87                  | 0.185                              |
| 70-74               | 200                       | 1.3                     | 45                  | 0.184                              |
| 75-79               | 146                       | 0.9                     | 27                  | 0.156                              |
| 80-84               | 24                        | 0.2                     | 7                   | 0.226                              |
| 85-89               | 8                         | 0.05                    | 4                   | 0.333                              |
| 90-94               | 2                         | 0.01                    | 1                   | 0.333                              |
| 95-99               | <u>2</u>                  | <u>0.01</u>             | <u>0</u>            | <u>0.000</u>                       |
|                     | 15803                     | 100                     | 3004                | 0.160                              |

Life Table based on age of dropouts:

| <u>Age Class</u> | <u><math>l_x</math></u> | <u><math>d_x</math></u> | <u><math>q_x</math></u> | <u><math>e_x</math></u> |
|------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| <5               | 1000                    | 0                       | 0.000                   | 35.3                    |
| 5-9              | 1000                    | 14                      | 0.014                   | 30.3                    |
| 10-14            | 986                     | 41                      | 0.042                   | 25.7                    |
| 15-19            | 945                     | 101                     | 0.107                   | 21.7                    |
| 20-24            | 844                     | 146                     | 0.173                   | 19.0                    |
| 25-29            | 698                     | 140                     | 0.201                   | 17.5                    |
| 30-34            | 558                     | 131                     | 0.235                   | 16.2                    |
| 35-39            | 427                     | 93                      | 0.218                   | 15.4                    |
| 40-44            | 334                     | 85                      | 0.254                   | 14.0                    |
| 45-49            | 249                     | 57                      | 0.229                   | 12.9                    |
| 50-54            | 192                     | 57                      | 0.297                   | 11.0                    |
| 55-59            | 135                     | 45                      | 0.333                   | 9.6                     |
| 60-64            | 90                      | 34                      | 0.378                   | 8.1                     |
| 65-69            | 56                      | 29                      | 0.518                   | 6.5                     |
| 70-74            | 27                      | 15                      | 0.556                   | 5.7                     |
| 75-79            | 12                      | 9                       | 0.750                   | 4.6                     |
| 80-84            | 3                       | 2                       | 0.667                   | 3.0                     |
| 85-89            | 1                       | 1                       | 1.000                   | 2.5                     |
| 90-94            | 0                       | 0.3                     | 0.000                   | 0.0                     |

Life Table based on age structure of active hunters:

| <u>Age Class</u> | <u><math>l_x</math></u> | <u><math>d_x</math></u> | <u><math>q_x</math></u> | <u><math>e_x</math></u> |
|------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| <5               | *                       | *                       | *                       | *                       |
| 5-9              | *                       | *                       | *                       | *                       |
| 10-14            | 1000                    | 90                      | 0.090                   | 25.2                    |
| 15-19            | 910                     | 111                     | 0.122                   | 22.4                    |
| 20-24            | 799                     | 124                     | 0.155                   | 20.2                    |
| 25-29            | 675                     | 111                     | 0.164                   | 18.4                    |
| 30-34            | 564                     | 130                     | 0.230                   | 16.6                    |
| 35-39            | 434                     | 80                      | 0.184                   | 15.8                    |
| 40-44            | 354                     | 84                      | 0.237                   | 13.8                    |
| 45-49            | 270                     | 60                      | 0.222                   | 12.3                    |
| 50-54            | 210                     | 54                      | 0.257                   | 10.1                    |
| 55-59            | 156                     | 40                      | 0.256                   | 7.7                     |
| 60-64            | 116                     | 86                      | 0.741                   | 4.5                     |
| 65-69            | 30                      | 19                      | 0.633                   | 5.3                     |
| 70-74            | 11                      | 6                       | 0.545                   | 5.0                     |
| 75-79            | 5                       | 5                       | 1.000                   | 3.0                     |

Appendix C - A summary of age-specific desertion statistics

LOW PARTICIPATION

| <u>Hunter's Age</u> | <u>No. Active Hunters</u> | <u>% of all Hunters</u> | <u>No. Dropouts</u> | <u>Average annual dropout rate</u> |
|---------------------|---------------------------|-------------------------|---------------------|------------------------------------|
| <5                  | 0                         | 0.0                     | 0                   | 0.000                              |
| 5-9                 | 43                        | 1.3                     | 26                  | 0.377                              |
| 10-14               | 175                       | 5.3                     | 34                  | 0.163                              |
| 15-19               | 445                       | 13.5                    | 88                  | 0.165                              |
| 20-24               | 474                       | 14.4                    | 128                 | 0.213                              |
| 25-29               | 452                       | 13.7                    | 131                 | 0.225                              |
| 30-34               | 402                       | 12.2                    | 137                 | 0.254                              |
| 35-39               | 335                       | 10.2                    | 98                  | 0.226                              |
| 40-44               | 255                       | 7.7                     | 84                  | 0.248                              |
| 45-49               | 184                       | 5.6                     | 62                  | 0.106                              |
| 50-54               | 169                       | 5.1                     | 54                  | 0.242                              |
| 55-59               | 127                       | 3.9                     | 51                  | 0.287                              |
| 60-64               | 108                       | 3.3                     | 33                  | 0.206                              |
| 65-69               | 68                        | 2.1                     | 27                  | 0.284                              |
| 70-74               | 42                        | 1.3                     | 19                  | 0.311                              |
| 75-79               | 4                         | 0.1                     | 8                   | 0.667                              |
| 80-84               | 5                         | 0.2                     | 2                   | 0.048                              |
| 85-89               | <u>3</u>                  | <u>0.1</u>              | <u>1</u>            | <u>0.012</u>                       |
|                     | 3291                      | 100                     | 983                 | 0.230                              |

Life Table based on age of dropouts:

| <u>Age Class</u> | <u><math>l_x</math></u> | <u><math>d_x</math></u> | <u><math>q_x</math></u> | <u><math>e_x</math></u> |
|------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| <5               | 1000                    | 0                       | 0.000                   | 35.8                    |
| 5-9              | 1000                    | 26                      | 0.026                   | 30.8                    |
| 10-14            | 974                     | 35                      | 0.036                   | 26.5                    |
| 15-19            | 939                     | 90                      | 0.096                   | 22.4                    |
| 20-24            | 849                     | 130                     | 0.153                   | 19.6                    |
| 25-29            | 719                     | 133                     | 0.185                   | 17.6                    |
| 30-34            | 586                     | 140                     | 0.239                   | 16.1                    |
| 35-39            | 446                     | 100                     | 0.224                   | 15.3                    |
| 40-44            | 346                     | 85                      | 0.246                   | 14.0                    |
| 45-49            | 261                     | 63                      | 0.241                   | 12.8                    |
| 50-54            | 198                     | 55                      | 0.278                   | 11.0                    |
| 55-59            | 143                     | 52                      | 0.364                   | 9.3                     |
| 60-64            | 91                      | 34                      | 0.374                   | 8.2                     |
| 65-69            | 57                      | 27                      | 0.474                   | 6.6                     |
| 70-74            | 30                      | 19                      | 0.633                   | 5.2                     |
| 75-79            | 11                      | 8                       | 0.727                   | 4.5                     |
| 80-84            | 3                       | 2                       | 0.667                   | 5.0                     |
| 85-89            | 1                       | 1                       | 1.000                   | 2.5                     |

Life Table based on age structure of active hunters:

| <u>Age Class</u> | <u><math>l_x</math></u> | <u><math>d_x</math></u> | <u><math>q_x</math></u> | <u><math>e_x</math></u> |
|------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| <5               | *                       | *                       | *                       | *                       |
| 5-9              | 1000                    | 97                      | 0.097                   | 24.8                    |
| 10-14            | 903                     | 202                     | 0.224                   | 22.2                    |
| 15-19            | 701                     | 4                       | 0.006                   | 22.9                    |
| 20-24            | 697                     | 121                     | 0.174                   | 18.0                    |
| 25-29            | 576                     | 125                     | 0.217                   | 16.2                    |
| 30-34            | 451                     | 144                     | 0.319                   | 15.0                    |
| 35-39            | 307                     | 51                      | 0.166                   | 15.9                    |
| 40-44            | 256                     | 19                      | 0.074                   | 13.5                    |
| 45-49            | 237                     | 70                      | 0.295                   | 9.4                     |
| 50-54            | 167                     | 54                      | 0.323                   | 7.3                     |
| 55-59            | 113                     | 82                      | 0.726                   | 4.6                     |
| 60-64            | 31                      | 19                      | 0.613                   | 5.2                     |
| 65-69            | 12                      | 8                       | 0.667                   | 4.2                     |
| 70-74            | 4                       | 4                       | 1.000                   | 2.5                     |

Appendix D - A summary of age-specific desertion statistics

HIGH DESERTION

| <u>Hunter's Age</u> | <u>No. Active Hunters</u> | <u>% of all Hunters</u> | <u>No. Dropouts</u> | <u>Average annual dropout rate</u> |
|---------------------|---------------------------|-------------------------|---------------------|------------------------------------|
| <5                  | 0                         | 0.0                     | 0                   | 0.000                              |
| 5-9                 | 30                        | 1.2                     | 21                  | 0.412                              |
| 10-14               | 142                       | 5.8                     | 34                  | 0.193                              |
| 15-19               | 350                       | 14.2                    | 73                  | 0.173                              |
| 20-24               | 343                       | 13.9                    | 136                 | 0.284                              |
| 25-29               | 321                       | 13.0                    | 102                 | 0.241                              |
| 30-34               | 319                       | 13.0                    | 111                 | 0.258                              |
| 35-39               | 252                       | 10.2                    | 74                  | 0.227                              |
| 40-44               | 200                       | 8.1                     | 67                  | 0.251                              |
| 45-49               | 133                       | 5.4                     | 45                  | 0.253                              |
| 50-54               | 116                       | 4.7                     | 40                  | 0.256                              |
| 55-59               | 104                       | 4.2                     | 39                  | 0.273                              |
| 60-64               | 63                        | 2.6                     | 29                  | 0.315                              |
| 65-69               | 49                        | 2.0                     | 26                  | 0.364                              |
| 70-74               | 29                        | 1.2                     | 8                   | 0.216                              |
| 75-79               | 7                         | 0.3                     | 4                   | 0.364                              |
| 80-84               | 1                         | 0.04                    | 0                   | 0.000                              |
| 85-89               | <u>2</u>                  | <u>0.08</u>             | <u>1</u>            | <u>0.333</u>                       |
|                     | 2461                      | 100                     | 812                 | 0.248                              |

Life Table based on age of dropouts:

| <u>Age Class</u> | <u><math>l_x</math></u> | <u><math>d_x</math></u> | <u><math>q_x</math></u> | <u><math>e_x</math></u> |
|------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| <5               | 1000                    | 0                       | 0.000                   | 34.6                    |
| 5-9              | 1000                    | 26                      | 0.026                   | 29.6                    |
| 10-14            | 974                     | 42                      | 0.043                   | 25.3                    |
| 15-19            | 932                     | 90                      | 0.097                   | 21.4                    |
| 20-24            | 842                     | 167                     | 0.198                   | 18.4                    |
| 25-29            | 675                     | 126                     | 0.187                   | 17.3                    |
| 30-34            | 549                     | 137                     | 0.250                   | 15.7                    |
| 35-39            | 412                     | 91                      | 0.221                   | 15.1                    |
| 40-44            | 321                     | 83                      | 0.259                   | 13.7                    |
| 45-49            | 238                     | 55                      | 0.231                   | 12.6                    |
| 50-54            | 183                     | 49                      | 0.268                   | 10.6                    |
| 55-59            | 134                     | 48                      | 0.358                   | 8.5                     |
| 60-64            | 86                      | 36                      | 0.419                   | 6.9                     |
| 65-69            | 50                      | 34                      | 0.680                   | *5.0                    |
| 70-74            | 16                      | 10                      | 0.625                   | 5.3                     |
| 75-79            | 6                       | 5                       | 0.838                   | 5.0                     |
| 80-84            | 1                       | 0                       | 0.000                   | 10.0                    |
| 85-89            | 1                       | 1                       | 1.000                   | 2.5                     |

Life Table based on age structure of active hunters:

| <u>Age Class</u> | <u><math>l_x</math></u> | <u><math>d_x</math></u> | <u><math>q_x</math></u> | <u><math>e_x</math></u> |
|------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| <5               | *                       | *                       | *                       | *                       |
| 5-9              | 1000                    | 70                      | 0.070                   | 27.8                    |
| 10-14            | 930                     | 29                      | 0.031                   | 24.7                    |
| 15-19            | 901                     | 158                     | 0.175                   | 20.4                    |
| 20-24            | 743                     | 82                      | 0.110                   | 19.2                    |
| 25-29            | 661                     | 53                      | 0.080                   | 16.3                    |
| 30-34            | 608                     | 275                     | 0.451                   | 12.5                    |
| 35-39            | 334                     | 6                       | 0.018                   | 15.6                    |
| 40-44            | 328                     | 152                     | 0.463                   | 10.6                    |
| 45-49            | 176                     | 29                      | 0.165                   | 13.1                    |
| 50-54            | 147                     | 0                       | 0.000                   | 10.1                    |
| 55-59            | 147                     | 88                      | 0.599                   | 5.1                     |
| 60-64            | 59                      | 47                      | 0.797                   | 4.1                     |
| 65-69            | 12                      | 6                       | 0.500                   | 5.0                     |
| 70-74            | 6                       | 6                       | 1.000                   | 2.5                     |

Appendix D - A summary of age-specific desertion statistics

MEDIUM DESERTION

| <u>Hunter's Age</u> | <u>No. Active Hunters</u> | <u>% of all Hunters</u> | <u>No. Dropouts</u> | <u>Average annual dropout rate</u> |
|---------------------|---------------------------|-------------------------|---------------------|------------------------------------|
| <5                  | 0                         | 0.0                     | 0                   | 0.000                              |
| 5-9                 | 171                       | 1.5                     | 29                  | 0.145                              |
| 10-14               | 822                       | 7.0                     | 103                 | 0.111                              |
| 15-19               | 1540                      | 13.1                    | 255                 | 0.142                              |
| 20-24               | 1712                      | 14.5                    | 374                 | 0.179                              |
| 25-29               | 1676                      | 14.2                    | 376                 | 0.183                              |
| 30-34               | 1150                      | 9.8                     | 336                 | 0.226                              |
| 35-39               | 1147                      | 9.7                     | 272                 | 0.192                              |
| 40-44               | 904                       | 7.7                     | 219                 | 0.195                              |
| 45-49               | 668                       | 5.7                     | 158                 | 0.191                              |
| 50-54               | 603                       | 5.1                     | 144                 | 0.193                              |
| 55-59               | 472                       | 4.0                     | 120                 | 0.203                              |
| 60-64               | 393                       | 3.3                     | 77                  | 0.164                              |
| 65-69               | 291                       | 2.5                     | 66                  | 0.185                              |
| 70-74               | 141                       | 1.2                     | 39                  | 0.217                              |
| 75-79               | 69                        | 0.6                     | 25                  | 0.266                              |
| 80-84               | 17                        | 0.1                     | 7                   | 0.292                              |
| 85-89               | 5                         | 0.04                    | 3                   | 0.375                              |
| 90-94               | 2                         | 0.02                    | 0                   | 0.000                              |
| 95-99               | <u>1</u>                  | <u>0.008</u>            | <u>0</u>            | <u>0.000</u>                       |
|                     | 11784                     | 100                     | 2267                | 0.158                              |

Life Table based on age of dropouts:

| <u>Age Class</u> | <u><math>l_x</math></u> | <u><math>d_x</math></u> | <u><math>q_x</math></u> | <u><math>e_x</math></u> |
|------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| <5               | 1000                    | 0                       | 0.000                   | 35.4                    |
| 5-9              | 1000                    | 11                      | 0.011                   | 30.4                    |
| 10-14            | 989                     | 40                      | 0.040                   | 25.7                    |
| 15-19            | 949                     | 98                      | 0.103                   | 21.7                    |
| 20-24            | 851                     | 144                     | 0.169                   | 18.9                    |
| 25-29            | 707                     | 144                     | 0.204                   | 17.2                    |
| 30-34            | 563                     | 129                     | 0.229                   | 16.0                    |
| 35-39            | 434                     | 104                     | 0.240                   | 14.9                    |
| 40-44            | 330                     | 84                      | 0.255                   | 13.9                    |
| 45-49            | 246                     | 61                      | 0.248                   | 12.7                    |
| 50-54            | 185                     | 55                      | 0.297                   | 11.1                    |
| 55-59            | 130                     | 46                      | 0.354                   | 9.7                     |
| 60-64            | 84                      | 30                      | 0.357                   | 8.7                     |
| 65-69            | 54                      | 25                      | 0.463                   | 7.1                     |
| 70-74            | 29                      | 15                      | 0.517                   | 6.0                     |
| 75-79            | 14                      | 10                      | 0.714                   | 4.6                     |
| 80-84            | 4                       | 3                       | 0.750                   | 5.0                     |
| 85-89            | 1                       | 1                       | 1.000                   | 2.5                     |

Life Table based on age structure of active hunters:

| <u>Age Class</u> | <u><math>l_x</math></u> | <u><math>d_x</math></u> | <u><math>q_x</math></u> | <u><math>e_x</math></u> |
|------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| <5               | *                       | *                       | *                       | *                       |
| 5-9              | *                       | *                       | *                       | *                       |
| 10-14            | 1000                    | 94                      | 0.094                   | 27.7                    |
| 15-19            | 906                     | 98                      | 0.108                   | 20.9                    |
| 20-24            | 808                     | 172                     | 0.213                   | 18.1                    |
| 25-29            | 636                     | 101                     | 0.159                   | 17.3                    |
| 30-34            | 535                     | 149                     | 0.279                   | 15.1                    |
| 35-39            | 386                     | 85                      | 0.220                   | 15.0                    |
| 40-44            | 301                     | 51                      | 0.169                   | 13.5                    |
| 45-49            | 250                     | 58                      | 0.232                   | 10.7                    |
| 50-54            | 192                     | 68                      | 0.354                   | 8.2                     |
| 55-59            | 124                     | 70                      | 0.565                   | 6.4                     |
| 60-64            | 54                      | 28                      | 0.519                   | 6.4                     |
| 65-69            | 26                      | 14                      | 0.538                   | 5.6                     |
| 70-74            | 12                      | 8                       | 0.667                   | 4.2                     |
| 75-79            | 4                       | 4                       | 1.000                   | 2.5                     |

LOW DESERTION

| <u>Hunter's Age</u> | <u>No. Active Hunters</u> | <u>% of all Hunters</u> | <u>No. Dropouts</u> | <u>Average annual dropout rate</u> |
|---------------------|---------------------------|-------------------------|---------------------|------------------------------------|
| <5                  | 0                         | 0.0                     | 0                   | 0.000                              |
| 5-9                 | 220                       | 1.4                     | 18                  | 0.076                              |
| 10-14               | 1151                      | 7.1                     | 60                  | 0.050                              |
| 15-19               | 2296                      | 14.3                    | 224                 | 0.089                              |
| 20-24               | 2057                      | 12.8                    | 296                 | 0.127                              |
| 25-29               | 2121                      | 13.2                    | 357                 | 0.144                              |
| 30-34               | 1831                      | 11.4                    | 269                 | 0.128                              |
| 35-39               | 1478                      | 9.2                     | 206                 | 0.122                              |
| 40-44               | 1091                      | 6.8                     | 168                 | 0.133                              |
| 45-49               | 956                       | 5.9                     | 113                 | 0.106                              |
| 50-54               | 838                       | 5.2                     | 118                 | 0.123                              |
| 55-59               | 711                       | 4.4                     | 94                  | 0.117                              |
| 60-64               | 572                       | 3.6                     | 69                  | 0.108                              |
| 65-69               | 441                       | 2.7                     | 65                  | 0.128                              |
| 70-74               | 213                       | 1.3                     | 44                  | 0.171                              |
| 75-79               | 93                        | 0.6                     | 21                  | 0.184                              |
| 80-84               | 29                        | 0.2                     | 9                   | 0.237                              |
| 85-89               | 6                         | 0.04                    | 4                   | 0.400                              |
| 90-94               | 1                         | 0.006                   | 1                   | 0.500                              |
| 95-99               | <u>1</u>                  | <u>0.006</u>            | <u>0</u>            | <u>0.000</u>                       |
|                     | 16106                     | 100                     | 2138                | 0.117                              |

Life Table based on age of dropouts:

| <u>Age Class</u> | <u><math>l_x</math></u> | <u><math>d_x</math></u> | <u><math>q_x</math></u> | <u><math>e_x</math></u> |
|------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| <5               | 1000                    | 0                       | 0.000                   | 35.8                    |
| 5-9              | 1000                    | 8                       | 0.008                   | 30.8                    |
| 10-14            | 992                     | 28                      | 0.028                   | 26.1                    |
| 15-19            | 964                     | 105                     | 0.109                   | 21.7                    |
| 20-24            | 859                     | 139                     | 0.162                   | 19.1                    |
| 25-29            | 720                     | 168                     | 0.233                   | 17.3                    |
| 30-34            | 552                     | 126                     | 0.228                   | 16.8                    |
| 35-39            | 426                     | 96                      | 0.225                   | 16.0                    |
| 40-44            | 380                     | 79                      | 0.239                   | 14.9                    |
| 45-49            | 251                     | 53                      | 0.211                   | 13.8                    |
| 50-54            | 198                     | 55                      | 0.278                   | 11.9                    |
| 55-59            | 143                     | 44                      | 0.308                   | 10.5                    |
| 60-64            | 99                      | 32                      | 0.323                   | 9.0                     |
| 65-69            | 67                      | 30                      | 0.448                   | 7.1                     |
| 70-74            | 37                      | 21                      | 0.568                   | 5.8                     |
| 75-79            | 16                      | 10                      | 0.625                   | 5.0                     |
| 80-84            | 6                       | 4                       | 0.667                   | 4.2                     |
| 85-89            | 2                       | 2                       | 1.000                   | 2.5                     |
| 90-94            | 0                       | 0.4                     | 0.000                   | 0.0                     |

Life Table based on age structure of active hunters:

| <u>Age Class</u> | <u><math>l_x</math></u> | <u><math>d_x</math></u> | <u><math>q_x</math></u> | <u><math>e_x</math></u> |
|------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| <5               | *                       | *                       | *                       | *                       |
| 5-9              | 1000                    | 9                       | 0.009                   | 24.3                    |
| 10-14            | 991                     | 123                     | 0.124                   | 24.5                    |
| 15-19            | 868                     | 78                      | 0.090                   | 22.6                    |
| 20-24            | 790                     | 165                     | 0.209                   | 19.6                    |
| 25-29            | 625                     | 109                     | 0.174                   | 19.2                    |
| 30-34            | 516                     | 86                      | 0.167                   | 17.7                    |
| 35-39            | 430                     | 83                      | 0.193                   | 15.7                    |
| 40-44            | 347                     | 56                      | 0.161                   | 13.8                    |
| 45-49            | 291                     | 53                      | 0.182                   | 11.0                    |
| 50-54            | 238                     | 78                      | 0.328                   | 7.9                     |
| 55-59            | 160                     | 97                      | 0.606                   | 5.6                     |
| 60-64            | 63                      | 41                      | 0.651                   | 5.2                     |
| 65-69            | 22                      | 15                      | 0.682                   | 5.2                     |
| 70-74            | 7                       | 5                       | 0.714                   | 5.7                     |
| 75-79            | 2                       | 1                       | 0.500                   | 7.5                     |
| 80-84            | 1                       | 1                       | 1.000                   | 5.0                     |

As the Nation's principal conservation agency, the Department of the Interior has responsibility for most of our nationally owned public lands and natural resources. This includes fostering the wisest use of our land and water resources, protecting our fish and wildlife, preserving the environmental and cultural values of our national parks and historical places, and providing for the enjoyment of life through outdoor recreation. The Department assesses our energy and mineral resources and works to assure that their development is in the best interests of all our people. The Department also has a major responsibility for American Indian reservation communities and for people who live in island territories under U.S. administration.





**END**

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